Development of a clinical pathway for Acute Coronary Syndrome, results and action plan

In 2007, a retrospective study was conducted on all patients admitted to CCU (Coronary Care Unit) with confirmed diagnosis of acute coronary syndrome (ACS) (including unstable angina or non-ST-elevation myocardial infarction (NSTEMI & UA)). The study revealed that medical therapies recommended by the American College of Cardiologists (ACC) and the American Heart Association (AHA) are underutilized (Appendix 1). Accordingly, the decision was taken to develop clinical pathways for ACS, especially that the process of care is multidisciplinary. Clinical pathways were revisited and revised through a structured multidisciplinary approach and laminated clinical pathways identifying daily plan of care were added to the medical record for physicians’ guidance and use.

During the implementation phase (Do), the whole strategy was changed. Data collection sheet was modified to include more focused evidence based indicators and the review was done concurrently to ensure that adverse events are attended to in real time and to enhance compliance. Moreover, a variance documentation sheet was introduced in the medical record to be used as a communication tool between the auditor and physicians especially during weekends.

Upon checking the results (Check), the rate of compliance increased from 59% to 92.5% in NSTEMI and from 75% to 94% in STEMI. This was evident by the acceptance, use, and adherence to clinical pathways which were supported by leadership and continuous education. In the final phase (Act), consensus with leadership was reached as to emphasize the importance of guiding patients to stop smoking by giving an educational session emphasizing its impact on improving patient outcome. Also a decision was taken to give this responsibility to the clinical educator in order to ensure that education was given. Delegating this responsibility to one person has improved the compliance rate regarding this specific indicator.

Sustaining the improvement was the most critical issue. This was achieved through continuous follow-up and educational sessions. Showing and sharing data by plotting results on a dashboard on monthly basis has helped physicians to be more comfortable while using them and more confident of the outcome results they desire their patients to reach. After all, the main purpose of healthcare providers is good patient outcome. Using evidence based pathways will help in achieving the desired outcome results.

Tips to consider when developing clinical pathways/protocols:

- Leadership role and commitment is very crucial for the success of quality management and performance improvement. Literature states clearly that there is a positive correlation between performance in healthcare organizations and leaders roles. Effective and successful leaders’ role is correlated to a large extent with positive outcomes, and creating an environment of high quality that ensures achieving high standards of patient care (Shpton et al., 2008).

### Evidence Based Medicine: The Project Part II

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The team members held several meetings in which cardiologists played a key role in the development of the pathway. Many changes, modifications, and adjustments were made to meet the needs of all those involved and to fit the context of available resources in our healthcare system.

**Implementation**

Educational activities were conducted to introduce the pathway whereby all participating medical staff, house staff, and nursing staff were oriented to the content of the pathway.

**Results**

The rate of compliance (during the initial period) was around 59% in NSTEMI and UA and 75% for STEMI.

**Action Plan**

PDCA methodology was used in order to improve the process and compliance. The PDCA Methodology has been adopted by the hospital as a tool to improve its processes of care. During the Planning phase (Plan), physicians and chairmen were addressed one by one, focus groups were conducted on monthly basis with 5 to 7 residents, monthly follow-up was performed by the chairman and results were shared with the concerned physicians. Educational sessions were given on monthly basis by the auditor to the multidisciplinary team. Finally, clinical pathways were revisited and revised on monthly basis by the auditor to the multidisciplinary team. Consensus with leadership was reached as to emphasize the importance of guiding patients to stop smoking by giving an educational session emphasizing its impact on improving patient outcome. Also a decision was taken to give this responsibility to the clinical educator in order to ensure that education was given. Delegating this responsibility to one person has improved the compliance rate regarding this specific indicator.

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Medicine

- Physicians' engagement is critical in any healthcare organization strong for excellence. The governing body should ensure clinicians’ participation in performance improvement activities and should make it part of their credentialing and reappointment. Without their active participation, quality improvement initiatives or efforts will never be successful.
- Developing policies, criteria, and clinical pathways while ensuring their implementation in the correct manner is crucial. The significance of targeting diseases that contribute to increase of healthcare costs was acknowledged by the MOPH as reflected in the MOPH standards set for the year 2010 where they required at least two clinical pathways per year. To enhance the public health approach and decrease the burden of disease and healthcare costs, the MOPH should request from all healthcare centers in Lebanon to implement clinical pathways for certain chronic diseases and encourage reporting their outcome data to benchmark it at the national level and later at the international level. This will be a step toward having a bright future with a healthier population.

Implications on the organizational and national level

- On the organization level, leadership should always revisit the clinical pathways and protocols that were developed and modify them according to the best sound scientific evidence and best practices identified during the monitoring phase. As leaders, they should make patients part of the process and make them aware of the availability of those guidelines. This can be achieved by organizing campaigns that cover all areas in Lebanon, to stress the importance of early detection and abstinence by the treatment regimen through following proper guidelines in order to achieve consistent outcome. Also, promoting self management by patient is fundamental for promoting and improving community health.

Conclusion

Health care organizations are called upon to standardize care to facilitate equitable, seamless, and consistent access to healthcare. Practitioners and administrators should work together to have a culture of standard work that will definitely result in improved quality and reduced costs. When we use clinical pathways, protocols and clinical guidelines, we are actually implementing different quality design activities serving the purpose of standardizing care i.e. minimizing unjustified variation in care and guiding health care professionals to take the appropriate decision for a particular clinical condition. In line with this, whatever quality design modality is used, the end result will be high quality care, good outcome at reduced costs.

Appendix 1

Medications compliance rate for Acute Coronary Syndrome during 2007

<table>
<thead>
<tr>
<th>Medication</th>
<th>Compliance Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin at arrival</td>
<td>90%</td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>51%</td>
</tr>
<tr>
<td>B Blockers at discharge</td>
<td>56%</td>
</tr>
<tr>
<td>Statin</td>
<td>77%</td>
</tr>
<tr>
<td>Unfractionated Heparin</td>
<td>55%</td>
</tr>
</tbody>
</table>

Table 1: Inpatients medications

Recommended Medical Therapies: Inpatients medications

- Aspirin at arrival
- ACE inhibitors
- B Blockers at discharge
- Statin
- LMWH (Low molecular weight heparin)
- Clopidogrel
- Lytic

Table 2: Discharge Medications

Recommended Medical Therapies: Discharge Medications

- Aspirin at discharge
- ACE inhibitors
- B Blockers at discharge
- Statin
- LMWH (Low molecular weight heparin)
- Clopidogrel
- Lytic

References

- Joint Commission International standards for Hospitals, 5th edition, effective April 2014

LMWH

<table>
<thead>
<tr>
<th>Medication</th>
<th>Compliance Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clopidogrel</td>
<td>26%</td>
</tr>
<tr>
<td>GP IIb/IIa (Glycoprotein inhibitors)</td>
<td>79%</td>
</tr>
<tr>
<td>Lytic</td>
<td>8%</td>
</tr>
</tbody>
</table>

Table 3: Acute coronary syndrome medications

N=126

- Aspirin at discharge
- ACE inhibitors
- B Blockers at discharge
- Statin
- LMWH (Low molecular weight heparin)
- Clopidogrel
- Lytic