

Evidence Based Medicine: The Project

Part II



Zeina Mneimneh
 RN, BSN, MPH, CPHQ, MLC
 (master lean certified)
 Utilization Review Manager-AUBMC

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 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.

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 utilization of evidence-based therapies is directly linked with decrease in mortality rate and is known to optimize patient outcome. A study by Schiele and colleagues concluded a decrease of 11% in mortality of acute MI patients for every 10% increase in adherence to ACC/AHA guideline, irrespective of risk (Schiele et al., 2004). Knowing the above mentioned fact and the benefit arising from clinical pathways development and implementation, a multidisciplinary team was assigned by the leadership to develop clinical pathways for ACS, from the time patient is diagnosed in the Emergency Department (ED), till his admission and treatment in the CCU.

The team was formed of cardiologists, nursing staff, quality management and emergency department staff. The team members held several meetings in which

CLINICAL PATHWAY

Acute Coronary Syndrome

		Initiating DATE:			Initiating TIME:			PATIENT IDENTIFICATION		
Initiating UNIT:	0 - 15 mins	15 - 60 mins	1 - 3 hours	3 - 6 hours	6 - 12 hours	12 - 24 hours	Day 2	Day 3		
	DATE: _____	DATE: _____	DATE: _____	DATE: _____	DATE: _____	DATE: _____	DATE: _____	DATE: _____		
ACTIVITY	<input type="checkbox"/> Bedrest	<input type="checkbox"/> Bedrest	<input type="checkbox"/> Bedrest <input type="checkbox"/> Arrange for Admission to monitored bed	<input type="checkbox"/> Bedrest with bathroom privileges	<input type="checkbox"/> Bedrest with bathroom privileges	<input type="checkbox"/> Bedrest with bathroom privileges	<input type="checkbox"/> Bedrest with bathroom privileges	<input type="checkbox"/> Advance as tolerated		
TEST SPECIMENS	<input type="checkbox"/> EKG within 1st 15 min LABS: <input type="checkbox"/> CKO within 1st 30 min - STAT <input type="checkbox"/> CMP <input type="checkbox"/> CBC <input type="checkbox"/> PT + PTT <input type="checkbox"/> Type + Screen (Draw & Hold) <input type="checkbox"/> Consider ABG's if pulse ox 95%	<input type="checkbox"/> Portable CNR <input type="checkbox"/> Send all bloods drawn except Type _____ STAT <input type="checkbox"/> Repeat EKG at 60 minutes	<input type="checkbox"/> Check CKO results at 1 hour post sent <input type="checkbox"/> Check CBC at 1 hour post sent <input type="checkbox"/> Check CNR results <input type="checkbox"/> Repeat EKG at hour 2 if indicated	<input type="checkbox"/> Check CK4 at hour 4 <input type="checkbox"/> Check CK4 results	<input type="checkbox"/> Check CK8 at hour 8 <input type="checkbox"/> Check CK8 at results <input type="checkbox"/> Schedule stress test as indicated	<input type="checkbox"/> Consider echocardiogram if indicated <input type="checkbox"/> Consider Cardiac cath for Day 2 if indicated	<input type="checkbox"/> PTT as per protocol <input type="checkbox"/> EKG	<input type="checkbox"/> EKG		
DIET	<input type="checkbox"/> NPO	<input type="checkbox"/> NPO	<input type="checkbox"/> Clear Liquids	<input type="checkbox"/> As Appropriate	<input type="checkbox"/> As Appropriate	<input type="checkbox"/> Advance as tolerated	<input type="checkbox"/> Advance as tolerated	<input type="checkbox"/> Advance as tolerated		
MEDS	<input type="checkbox"/> Consider SL Nitro <input type="checkbox"/> If pulse ox 98% and chest pain, start O2	If pain persists: <input type="checkbox"/> Nitrates - SL Topical or IV <input type="checkbox"/> Start IV Heparin as per protocol <input type="checkbox"/> ASA 325 mg po <input type="checkbox"/> Consider glyco-protein inhibitor	<input type="checkbox"/> Consider Beta Blockers	<input type="checkbox"/> Continue IV Heparin	<input type="checkbox"/> Continue IV Heparin	<input type="checkbox"/> Continue IV Heparin	<input type="checkbox"/> Continue IV Heparin	<input type="checkbox"/> Discontinue IV Heparin		
CONSULTS		<input type="checkbox"/> Notify PMD and obtain Cardiology Consult		<input type="checkbox"/> Social Services Dietary as indicated						

* Repeat EKG any time pain reoccurs or worsens
 Clinical pathways are tools to facilitate and guide multi-disciplinary patient care. They do not represent a standard of care or replace physician orders or clinical judgment. Modifications are made based on documented individual patient needs.

PART OF THE MEDICAL RECORD

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ACS Clinical Pathway_CLINICAL PATHWAYS_MEDICAL AFFAIRS
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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 abidance by 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 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 (Shipton et al., 2008).

- Physicians' engagement is critical in any healthcare organization striving 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 alert of the benefits of these guidelines. This will raise awareness among them and lead to increase compliance to treatment and hence decrease readmissions and the burden of disease. Another issue is that leaders should make sure that the clinical pathways development should not include medical groups that have conflict of interest

Appendix 1

Medications compliance rate for Acute Coronary Syndrome during 2007

Table 1: Inpatients medications

Recommended Medical Therapies: Inpatients medications	Acute Coronary Syndrome (ACS) N=126
Aspirin at arrival	90%
ACE inhibitors	51%
B Blockers at discharge	56%
Statin	77%
Unfractionated Heparin	55%

or are not concerned about finances because they may include interventions that are costly and expensive or they may not advise for the most appropriate resources, thus harming the healthcare system, self-payers, and third party payers.

- On the national level, the MOPH should encourage the development of clinical pathways, and protocols for chronic diseases (disease management program) and enforce their use in primary healthcare centers. Moreover, the MOPH should play an active role in raising awareness among the community regarding risk factors of certain chronic diseases such as congestive heart failure, acute coronary syndrome, and diabetes 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 abidance 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.

LMWH	26%
Clopidogrel	79%
GP IIb/IIIa (Glycoprotein inhibitors)	8%
Lytic	3%

Table 2: Discharge Medications

Recommended Medical Therapies: Discharge Medications	Acute coronary syndrome N=126
Aspirin at discharge	85%
ACE inhibitors	45%
B Blockers at discharge	56%
Statin	79%
LMWH (Low molecular weight heparin)	1%
Clopidogrel	54%
Lytic	6%

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