Interdisciplinary Team-based Population Management of Patients with Poorly Controlled Diabetes

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Describe a QI project in which a new process of care is created

Diabetes Care in GIM at BMC

According to most recent data available: - 20% of diabetics with A1C >=9 - True number likely > 20% ADA Standards of Medical Care in Diabetes 2013 Strategies for improving diabetes care:

"Care should be aligned with components of the Chronic Care Model to ensure productive interactions between a prepared proactive practice team and an informed activated patient. (A)

"When feasible, care systems should support team-based care, community involvement, patient registries, and embedded decision support tools to meet patient needs. (B)

Approach

- A3 used to structure the beginning of the project
- Created a new process for population management
 - -Piloted team care/outreach
 - -Mapped processes of diabetes care

Population Management

- Target population:
 -patients with A1Cs >=9
- Data: "PCMH registry"
 - Patient demographics, A1C dates/values, date of last PCP visit
- Series of meetings beginning in Fall 2012 facilitated by Jim Danielson to map current processes of care and future processes of care

Intervention

- Created DM care teams (piloted with 3 PCPs, call center staff, RN, pharmD/CDE, endo NP/MD/navigator)
 - Role redesign
 - Correlation with level of team functioning and outcomes
 - Discuss and documented barriers for each patient, brainstorm solutions
- Team roles
 - -Call center call patients to come in for overdue tests/appts

Intervention

Team roles, cont.

- -Call center links patients to DM resources: navigator, RD, NP, RN, pharmacist
- -Diabetes "intensive care"
 - RNs coordinate care of high-risk patients
- -Endo MD/NP/pharmacist provide expert advice re medication management

 PCP provides patient summary at beginning, but has no work to do outside of team meeting

GIM patients diagnosed with Diabetes Mellitus having an A1c value superior or equal to 9



Note: The above patients are matched in both pre and post intervention

Pre and Post Comparison of HbA1c for selected GIM patients For Diabetes patients with HbA1c value superior or equal to 9 at pre-intervention (February 2013 - September 2013)



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Other outcomes

- Team building/formation of relationships
- Cross-cultural interchange
- PCP feels less "alone" with most challenging patients (e.g. hoarders, patients on opioids)

Challenges

- Need for "protected time" when care teams can meet
- Union issues with role redesign (MAs did not participate)
- Not all PCPs are open to this approach

Challenges, cont.

Spread/sustainability/availability of resources

- need 1 hour per month of PCP, call center staff, pharmacist/endo MD/endo NP (one of three), RN
- Patient navigator may lose funding end of December
- Need "planned care coordinator" to schedule meetings, print registries, ensure accountability of team members

Next steps

- Map resources
- Spreading to two PCPs who do 8 sessions/week, and to resident teams
- Identifying aspects of intervention that are most effective (e.g. call center and endo MD/NP or pharmacist) seem key
- Meet in person only for discussion of new patients (discuss four per hour)?
- Focus on patients with A1C 9-12?



- Is this approach sufficient to manage a population of 1000 diabetics with A1C > 9?
- How to track data going forward

Lessons learned

- Value of having a process improvement specialist and using the A3
- Bottom-up approach

Completing an A3

Be Exceptional BOSTON MEDICAL CENTER'S STRATEGIC PLAN

Blank A3 Form



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Starting an A3





A Typical A3 life cycle is 12 months!



Box 1 – Reason for Action



Chief Complaint	Standardization of the use of sedation in critically ill patients at BMC is currently effected by adherence to a standard sedation scoring system, the Riker Score; the
Problem Statement	policy targets a score of 3-4. This is generally achieved by placing patients on a continuous infusion of sedating medicines with a titration range. These medications
Proactive Approach – Future	are titrated by nurses to achieve the desired sedation.
Opportunity	• There is tremendous variability from nurse to nurse and shift to shift in the level of sedation patients receive.
Clarify and then define the	• An important tool in limiting this variability is the use of a daily interruption of sedation (aka sedation vacations or SV).
problem.	 After initial success with a sedation vacation pilot in one ICU we have been unable to sustain the routine use of this practice
Combine the answers from the	The current use of this well established and endorsed Best Practice (SV) across our ICU's is effectively zero.
following questions into one	While there is an ecdotal use of this protocol in our institution it is ad hoc, highly sporadio, and currently untrockable
What - part or object what is the	sporadic, and currently untrackable.
deviation (the Gap)	In Scope: Patients receiving mecahnical ventilation and continuous infusions of
Where - in the process; the Point	Out of Scope: All other ICU patients, All other adult ICU's, Spontaneous breathing
of Cause	trials
When - did it first occur, occur	End: Patient no longer needs Mecahnical Ventilation or leaves the ICU
How - many items effected	
Who - has/is affected by the	
problem	
Exceptional	21
	Chief Complaint Problem Statement Proactive Approach – Future Opportunity Clarify and then define the problem. Combine the answers from the following questions into one statement: What - part or object, what is the deviation (the Gap) Where - in the process; the Point of Cause When - did it first occur, occur since How - many items effected Who - has/is affected by the problem

BOSTON MEDICAL CENTER'S STRATEGIC PLAN

Box 2 – The Initial State



- What is happening now?
- Express the situation in time and units
- Use data that can later 'prove the case'
- Process map Initial state

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Metrics	Initial State
Percent of eligible opportunities for a daily sedation vacation performed	0%
5E MICU mean vent days	10.2
5W MICU mean vent days	7.2
HAC MICU Self Extubation rate	тво







Box 3 – The Target State

- Expressed in same terms as the initial state
- Be sure to record required target not what we 'think' we can achieve
- Wherever possible use voice-of-thecustomer
- Process map the Target state

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Box 4 – Gap Analysis



- Identify all possible causes for the situation
- Cause and Effect Diagrams help here
- Conduct investigations find 'root cause'
- Written as a problem statement

<u>Fishbone</u>



Affinity Diagram





Box 5 – Solution Approach



- Use the "If we did this Then we would achieve this" approach to possible solutions
- Each solution should tie back to a metric from the target state

Priority	If we do this…	Then we expect this…
1	Change the time of vent rounds to accommodate RN attendance	Have a better time to communicate with each other
2	Provide education of relevant providers	Have the correct information on how to do the procedures
3	Provide on-going house staff education	Keep staff informed of correct procedures and information
4	Have daily communication and coordination to mobilize all resources	Keep everyone informed of patient and staff needs
5	Do a monthly review of data and distribution to each ICU	Keep everyone informed of current metrics and level of compliance
6	Add of target Riker score in each continuous infusion order	By clearly defining an endpoint, we will make it easier for the nurse to titrate the sedative
7	Standardize sedation vacation procedure	Everyone will do it the same way
8	Consolidate all sedative medications into an order set and the creation of a daily sedation vacation assessment task on the eMAR	Make it easier to order sedative medications and ensure that the sedation vacation is ordered for all appropriate patients



Box 6 – Rapid Experiments



- What happened when we tried stuff? Did it work?
- Conclusion?
- Sytop Its Any tasks that need to be stopped as a result of new tasks?



Experiment	How	Who	Follow up
Change the time of vent rounds to accommodate RN attendance	Consider moving education conference to 7:30am and vent rounds to 8:00am	James	In consideration
Education of relevant providers	1:1 education of RNs; education of RTs; notification of house staff	James, Janet, Eduarda, Julie	See Action Items
On-going house staff education	Change Kevin's sedation lecture to the first week of the house staff's rotation, as opposed to the last	Kevin	In progress - Allan Walkey notified to update lecture calendar
Daily communication and coordination to mobilize all resources	Write "SV" on white board next to patient's name to highlight the need to conduct a sedation vacation	Lynn, Janet, Eduarda	Needs to be discussed during 1:1 education
Monthly review of data	Will present all metrics on a monthly basis at the MICU multidisciplinary meeting; nurse champions to email RN staff to share data with those unable to attend monthly meetings	James, Alfie	See Action Items
Distribution of data to each ICU	Installation of placard holders on each computer terminal; this will be a means to communicate important ICU-specific info on a rotating basis	James, Katrese	See Action Items
Addition of target Riker score in each continuous infusion order	Add "Titrate to Riker 3-4" in the titration field of each continuous infusion order	Kevin	Inprogress - notified IT
Standardization of sedation vacation procedure	Created a stadardized algorithm to assess and administration a sedation vacation	All	None
Consolidation of all sedative medications into an order set and the creation of a daily sedation vacation assessment task on the eMAR	Create a sedation vacation order that gets linked with propofol, midazolam, and lorazepam; sedation vacation order will generate a daily task on the eMAR to empower the RN to independently assess the patient for eligibility and conduct the sedation vacation if appropriate	All	None

Box 7 – Action Items



- List Activities by Projects, Events, Do-its, and stopits
- List 'What, Who and When' and track progress

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What	Who	When	Status
DAT Asssessment design	Jenn	9/13/2013	In process
"Comment" sheet design	Julie & Kathy	9/13/2013	In process
Pharmacy to stock an adequate supply of phenobarbital IV and Lorazepam synringes	Kevin	TBD - when protocol is implemented	In process
Update on order set request from IT	James	9/13/2013	In process
Confirm feasibility of dispensing Lorazepam 60 mg/30 mL syringes for the protocol	Kevin & Farnaz	9/13/2013	In process
Notify House Officeers of new order set if approved	James	TBD	
Educate staff on new protocols	Eduarda & Janet	TBD	
Hang "Comments" sheet folders on the floor	Julie	TBD	



Box 8 – Confirmed State



 Relates all the way back to target condition.

> Have we achieved and close the gap? Does box 8 = box 3



Metric	Initial State	Target State	30 Days	60 Days	90 Days
%SV	0.00	50%	89%	80%	82%
5E vent days	10.20	9.70	9.90	8.50	7.80
5W vent days	7.20	6.70	7.10	6.90	6.70



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Confirmed State for Sustainment - Verify Solution and Share Learning

- Track the effect of solution against target on a graph
- Determine a "statistically significant" sustainment period and confirm no REPEAT CONCERNS for this period
- Follow and audit sustainment process to check the new solution is working/remains in place over time





Track and Verify the Solution is working!

Box 9 – Lesson



Lessons Learned / What went well / Plus... What could be improved / Delta... breakthroughs / *Pilot in one unit *Secure more bedside nurses to participate in the reflections *Involvement of bedside nurses _process *Discussing potential barriers with large multidisciplinary What new things have _group *Breaking up in groups to develop solutions we learned? *Defining specific, measurable metrics *Having a leader from the Quality Department (Jim _Danielson) to guide us through the process



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