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Orthopedic Back to Basics: Improving Total Joint Replacement Metrics in a Specialized Patient Population

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AIM

- Neurovascular checks following total hip and knee arthroplasty is a Joint Commission standard for all certified programs.¹
- Accurate and timely completion of these checks can be difficult in the Michigan Department of Corrections (MDOC) population. This is mainly due to the logistics of the unit and lower volume of cases compared to the non MDOC population.
- The main goal of this quality improvement project was to increase completion compliance of neurovascular checks in the MDOC population at Henry Ford Jackson Hospital (HFJH).

PLAN: CURRENT STATE

- In 2022 on average 4 patients from MDOC received a total hip or knee arthroplasty a month which is much less than the orthopedic unit where on average of 11 patients a month stay post op following their total hip or knee arthroplasty.
- Currently the standard of care for patients post total hip or knee arthroplasty is that neurovascular checks are completed by the Registered Nurse (RN) at intervals of q1 hours x 4 hours, and then q4 hours for 24 hours following surgery and then q shift for the remained of their hospitalization.
- Completion of neurovascular checks is monitored monthly and shared at the HFJ Joint Excellence Committee & HFJ Joint Operations Committee.
- The low volume of MDOC patients is a barrier to the nursing staff in completing the neurovascular checks accurately and timely.
- Currently RNs who are hired on the MDOC secured unit at HFJH receive training on neurovascular checks via an e-learning module through our learning management system Cornerstone & with their preceptor during orientation.

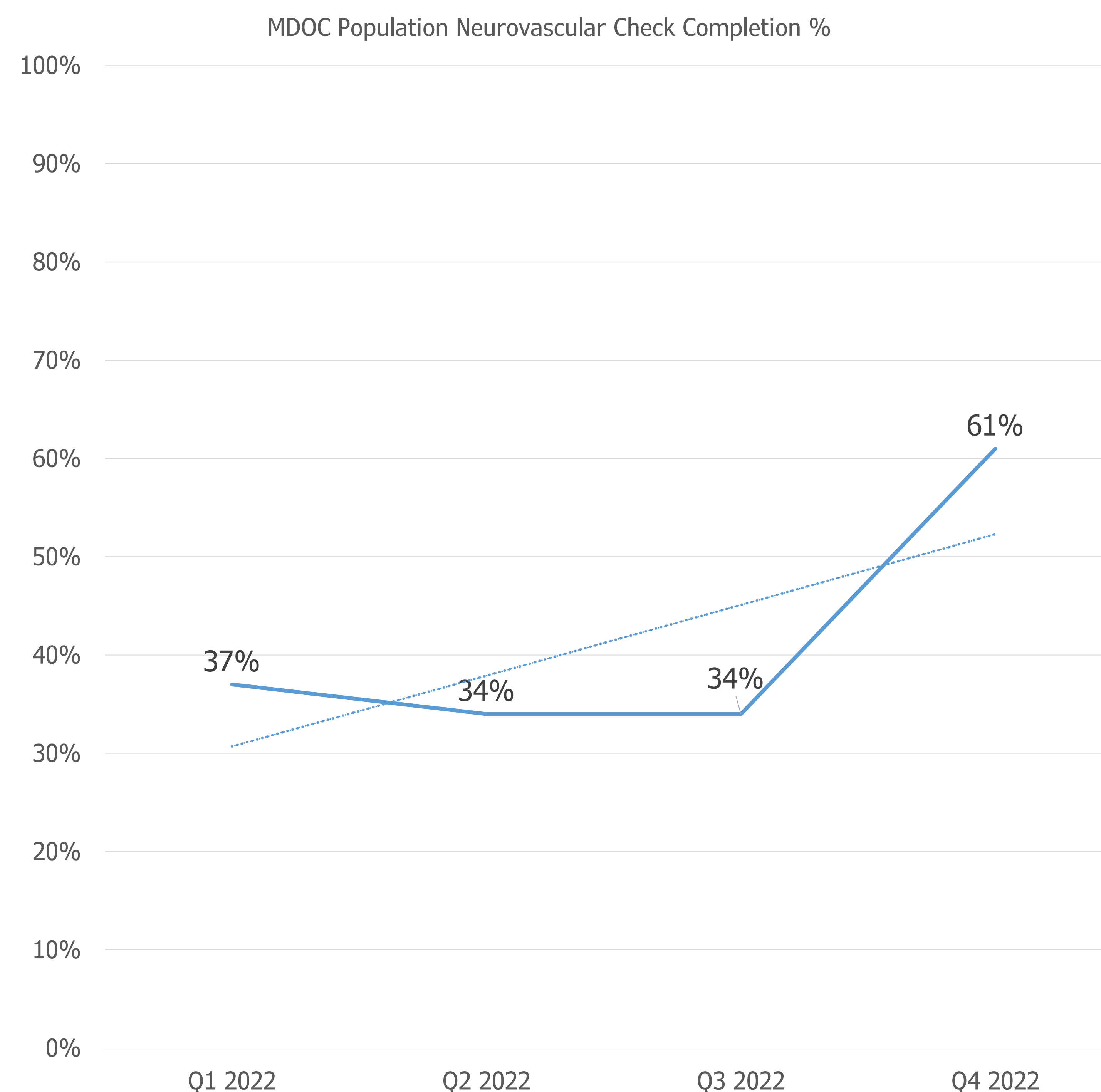
DO: CORRECTIVE ACTIONS / INTERVENTIONS

- The Clinical Nurse Specialist and Clinical Educator from the orthopedic unit held interactive and simulation-based learning sessions in early October.
- These educational sessions were for all registered nurses working on the MDOC secure unit.
- Each session included a presentation from one of the Orthopedic Advanced Practice Providers (APP) reviewing post-op standards of care and possible complications, the hardware used for joint replacement at HFJH and a simulation of caring for a post operative patient.

CHECK

- In quarter 1 of 2022 completion percentage of neurovascular audits in the MDOC population was 37%. In quarter 2 and quarter 3 completion percentage was 34%.
- The interactive education took place with the MDOC secure unit staff in early quarter 4 of 2022.
- The final completion percentage for quarter 4 was 61%. The completion percentage for quarter 1 2023 will be determined in early April.

MEASURES



ACT: SUSTAIN AND SPREAD

- The completion percentages will continue to be monitored both monthly and quarterly to ensure the intervention continues to be successful.
- Collaboration between CNS, Clinical Educator & Nurse Manager will occur monthly to review data, along with ensuring programs are put into place for newly hired RNs.
- Continue to offer interactive education yearly for staff caring for patients post total hip and knee arthroplasty.

Education and Tools

RM:

Patient Sticker	
(Q1Hrx4)	
#1	
#2	
#3	
#4	
(Q4hrx24)	
neurovas:	
neurovas:	
neurovas:	
neurovas:	
neurovas:	
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neurovas: Q Shift	
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Figure 1: Neurovascular sheet utilized by RNs to keep track of appropriate audit times

Figure 2: MDOC Secure unit Staff participating in simulation learning

KEYS TO SUCCESS / LESSONS LEARNED

- In person training was a better reinforcement method for compliance instead of other avenues that have been used over the last few years
- Simulation provided an avenue for the RNs to ask questions and receive immediate feedback.
- Multidisciplinary education provided a full picture to the staff who care for these patients but not as regularly as the orthopedic unit nurses.

References

¹ The Joint Commission. Orthopedic Certification: Pathways to excellence in patient care [Brochure]. <https://www.jointcommission.org/-/media/tjc/documents/accred-and-cert/ahc-ortho-cert-brochure-for-acscs.pdf> (jointcommission.org)