

Body Mass Index (BMI) Pathway: An Innovative Strategy to Guide Patients Through Weight Loss Before Total Joint Replacement

Kara Orr, MSN, RN, CNL
Jillian Knudsen, MSN, RN,
CNL, CMSRN, ONC



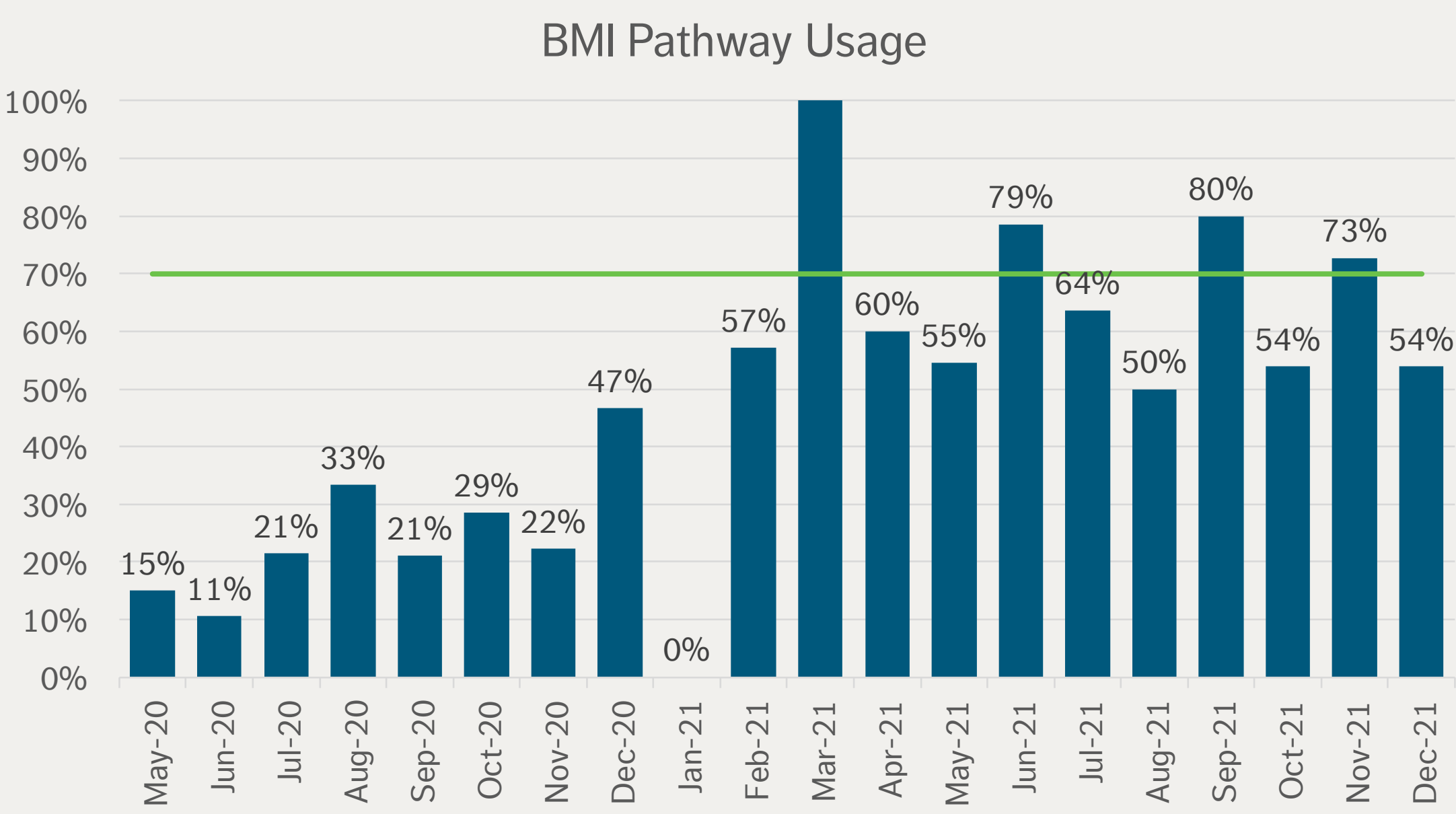
Define

Increased Body Mass Index (BMI) as been associated with increased rates of superficial wound infection and increased need for mid to long term revision joint replacement (Boyce et al., 2019). According to AAOS (2017 & 2015), patients should not undergo total joint replacement with an elevated BMI. Historical data suggests that 25% of patients seeking joint replacement at a community hospital have

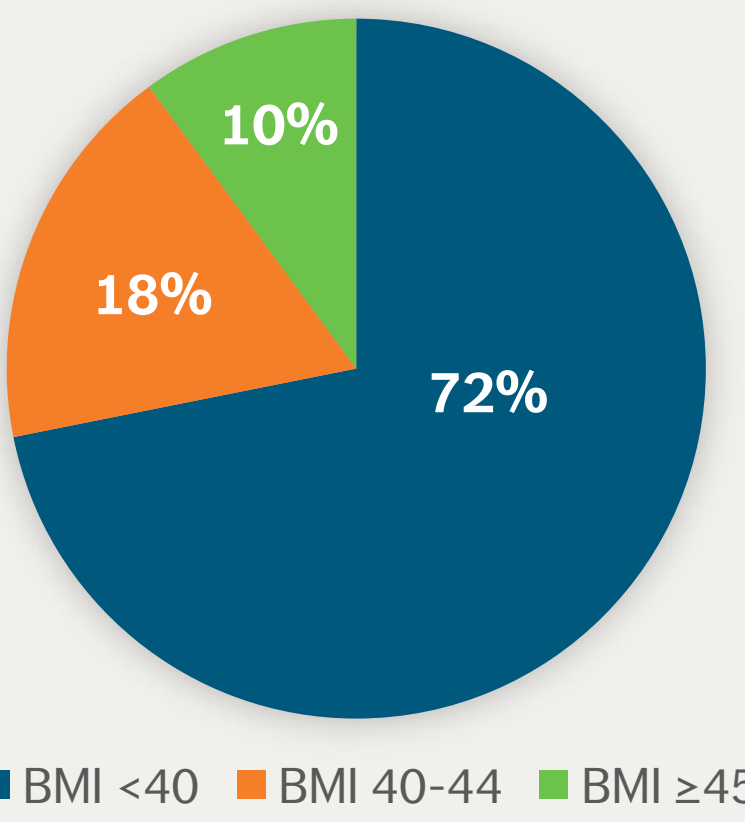
a BMI ≥ 40 . Patients were given information on weight loss options, but many patients did not successfully utilize resources or lower their BMI. The hospital and surgeons set out to develop a BMI pathway to guide these patients preoperatively through their weight loss journey.

Measure

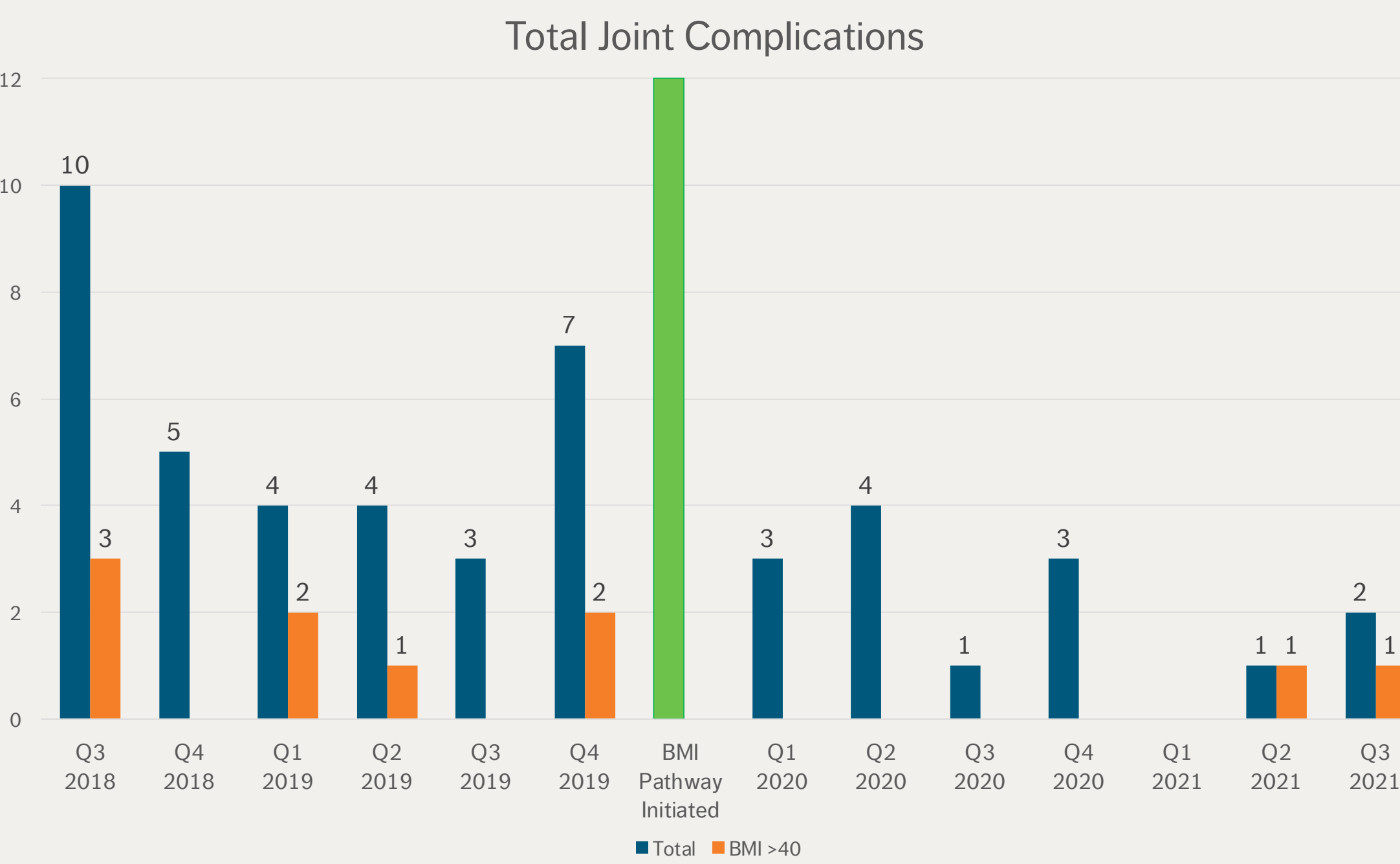
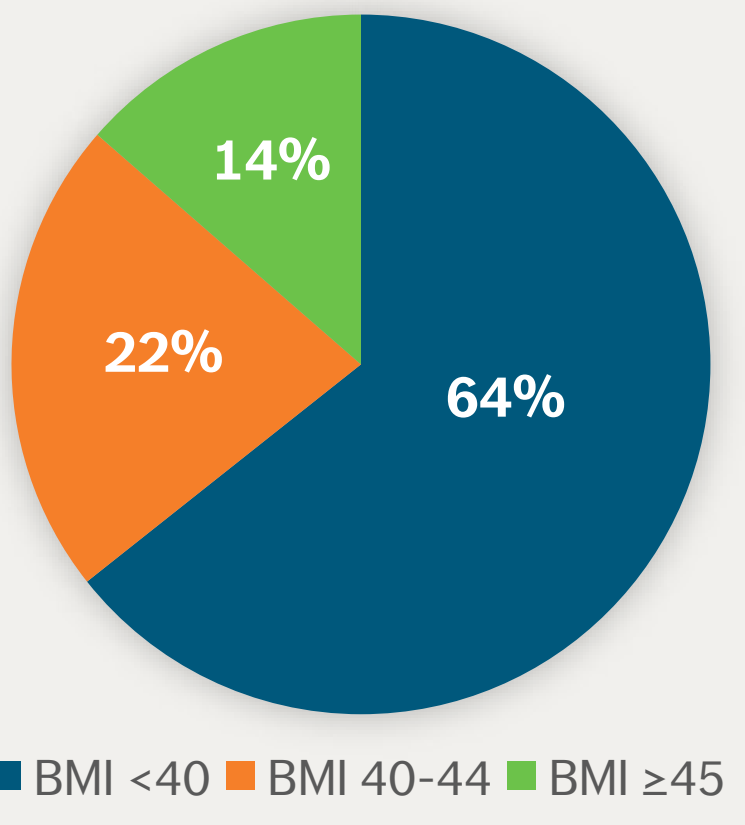
70% of patients with a BMI >40 will be referred to BMI pathway before surgery.



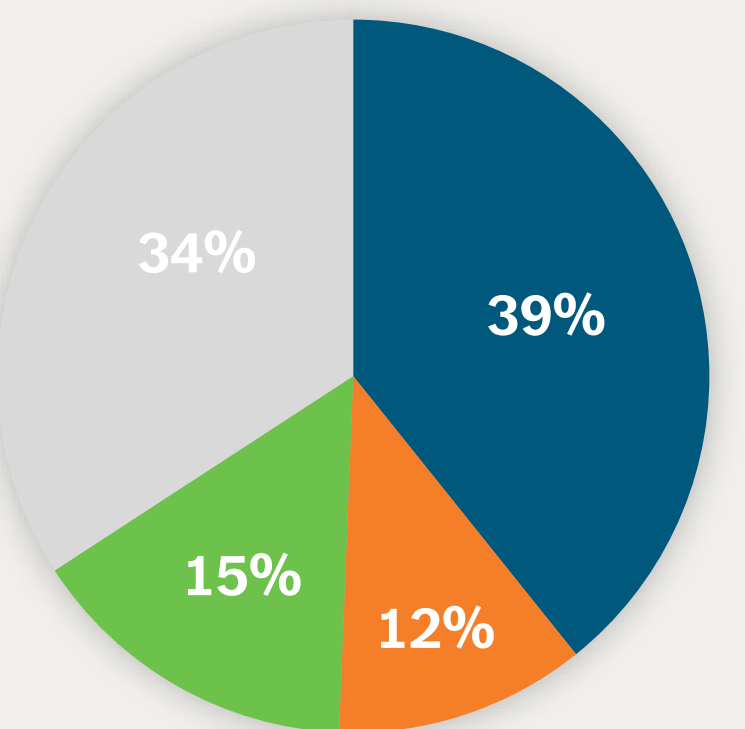
BMI Distribution
Clay/Platte Service Area
(2018-2019)



BMI Distribution
Outside Service Area
(2018-2019)



Medical Weight
Loss Referrals



Analyze

Patients:

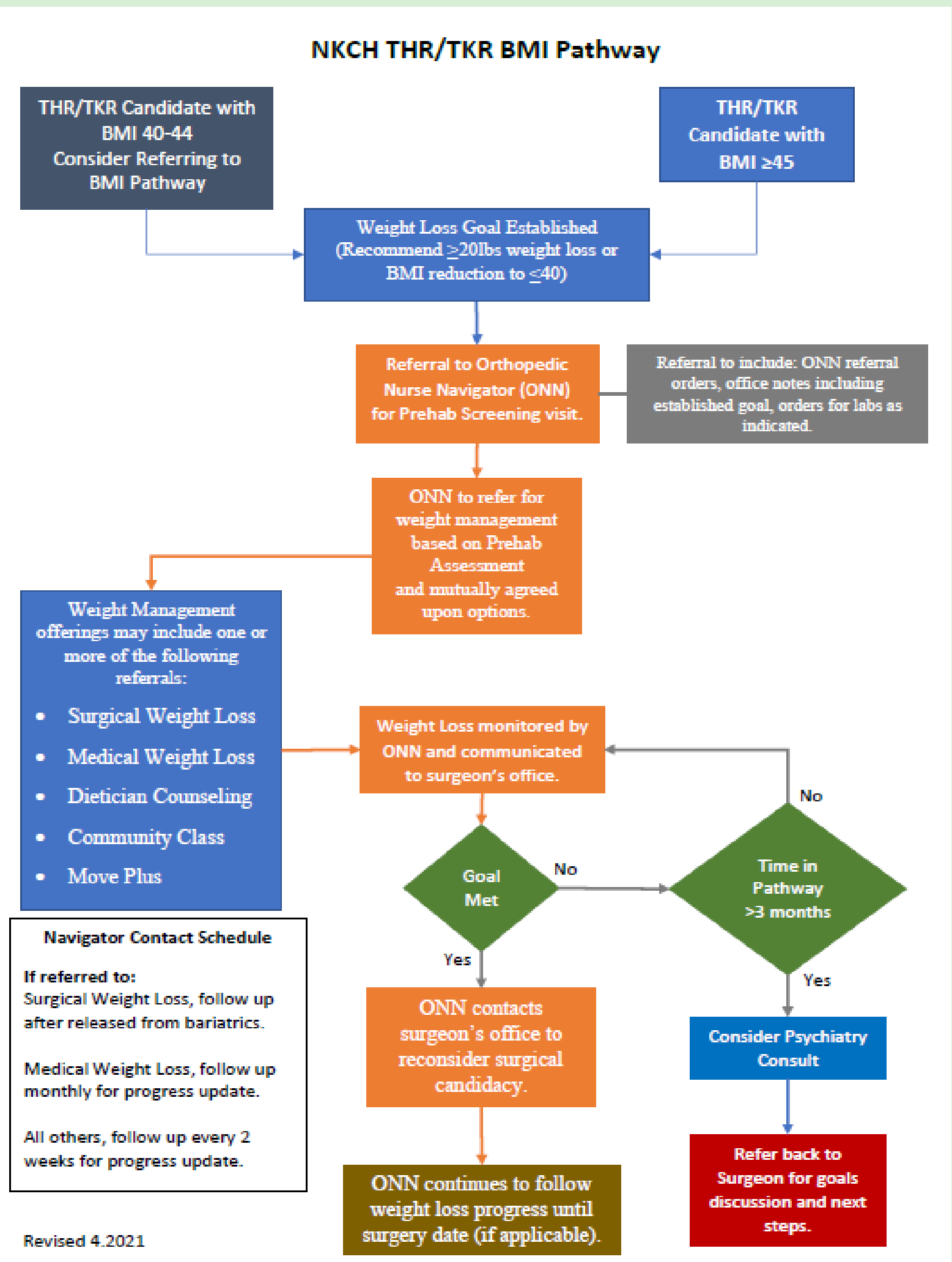
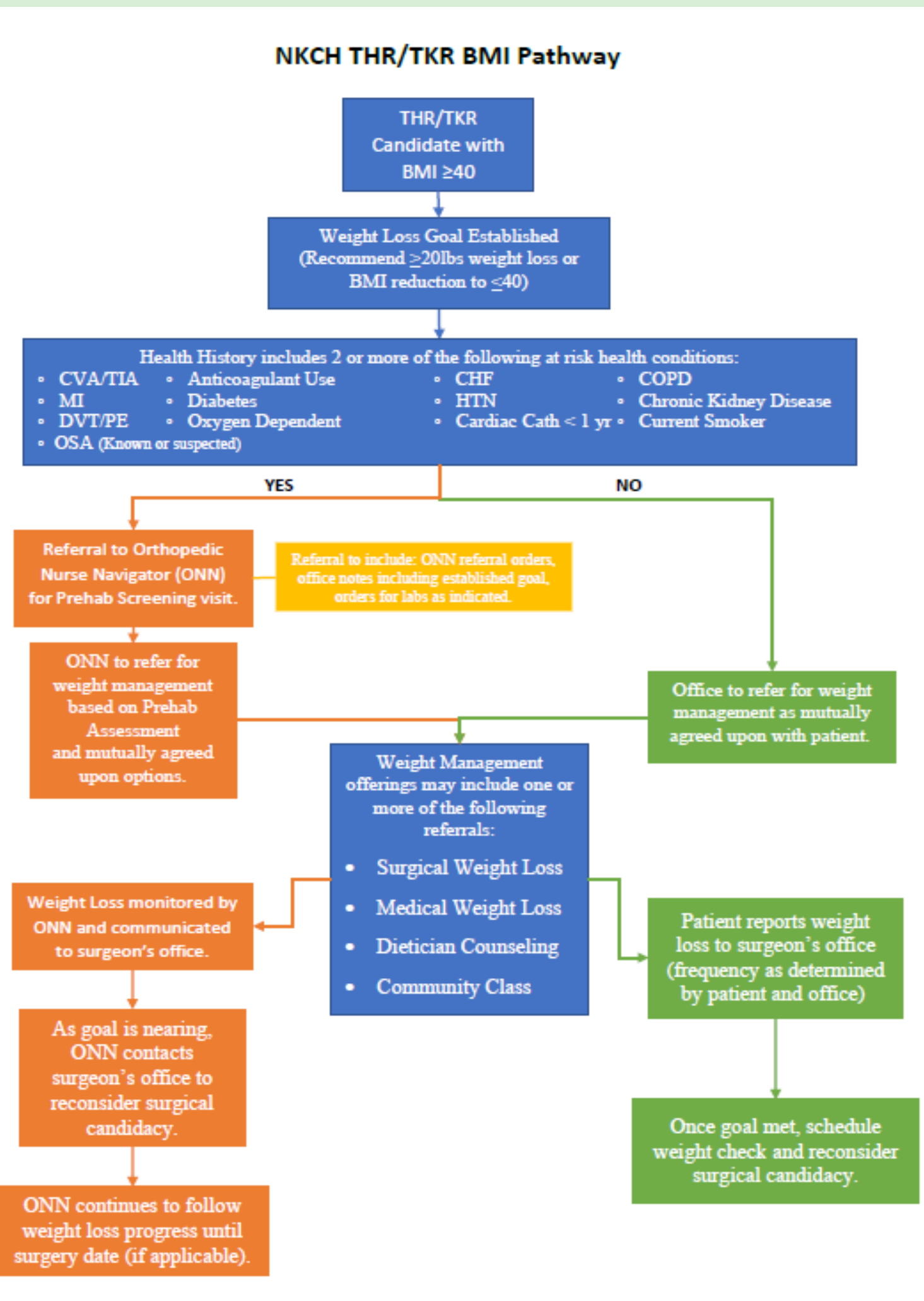
- Denied surgery at other institutions
- Fear avoidance toward movement (exercise)
- Knowledge deficit regarding weight loss options available
- Severe pain expediting need for joint replacement

System:

- Knowledge deficit regarding weight loss options available
- Lack of process for patients that have elevated BMI

Improve

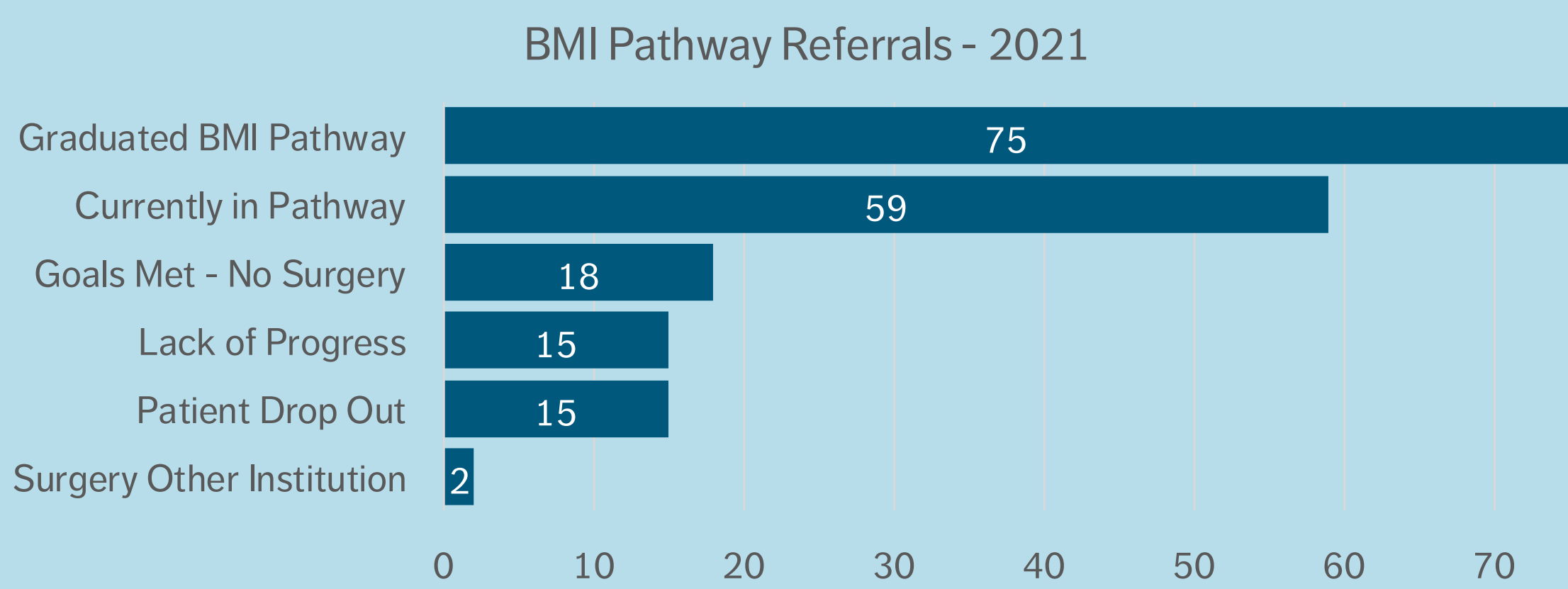
- Create patient tracking system/software
- Create referral options and order sets
- Develop BMI pathway for patients with BMI ≥ 40
- Direct support provided by orthopedic nurse navigator
- Add Bariatrician to support program need
- Identify weight loss resources available to patients
- Individualized weight loss plan



* Updated BMI Pathway in 2021 adding surgeon revisit if patient not meeting established goals.

Control

- BMI Brochure created for offices to inform patients of BMI pathway
- Orthopedic Nurse Navigator follows up with patients regarding progress and need for additional referrals at 2 week and monthly intervals.
- Physicians are updated on all patients in the BMI pathway on a quarterly basis and as patients complete their initial appointment, when their goals are completed, or if they are being removed from BMI pathway.
- Patients are removed from BMI pathway in accordance with BMI pathway protocol



Conclusions & Limitations

- Some patients need for weight reduction is not as severe as need for joint replacement, so surgeons were given the option document need and opt out of BMI pathway.
- Some patient's geographical location was a barrier to participating in different referral options.

Recommendations

- Multidisciplinary team of engaged physicians
- Knowledge of weight loss options in the community/ability to create options
- Dedicated system resource to manage BMI pathway patients
- Refine BMI pathway as needed

References

- American Academy of Orthopaedic Surgeons. (2015). American Academy of Orthopaedic Surgeons Surgical Management of Osteoarthritis of the Knee Evidence-based Clinical Practice Guideline. Retrieved from https://www.aaos.org/uploadedFiles/PreProduction/Quality/Guidelines_and_Reviews/SMOAK%20CPG_4.22.2016.pdf?_ga=2.21924723.978697223.1577721638-3291223.1490889329
- American Academy of Orthopaedic Surgeons. (2017). American Academy of Orthopaedic Surgeons Management of Osteoarthritis of the Hip Evidence-based Clinical Practice Guideline. Retrieved from https://www.aaos.org/uploadedFiles/PreProduction/Quality/Guidelines_and_Reviews/OA%20Hip%20CPG_6-11-19.pdf?_ga=2.114787151.978697223.1577721638-3291223.1490889329
- Boyce, L., Prasad, A., Barrett, M., Dawson-Bowling, S., Millington, S., Hanna, S., Achan, P. (2019). The Outcomes of Total Knee Arthroplasty in Morbidly Obese Patients: A Systematic Review of the Literature. Archives of Orthopaedic and Trauma Surgery. 139:553-560. <https://doi.org/10.1007/s00402-019-03127-5>

BMI PATHWAY