



Advancing High Performance Health

## Obesity Care Model Collaborative: Case Study

---

# *Novant Health*



# Organizational Profile

Headquartered in Winston-Salem, North Carolina, Novant Health (NH) is a not-for-profit integrated system of 15 medical centers and more than 1,600 physicians in over 640 locations, as well as numerous outpatient surgery centers, medical plazas, rehabilitation programs, diagnostic imaging centers, and community health outreach programs. Novant Health's 28,000+ team members and physician partners are committed to making health care remarkable for the more than 5 million patients the system serves annually in North Carolina, Virginia, South Carolina, and Georgia. Novant Health's vision is to deliver the most remarkable patient experience, in every dimension, every time. In 2018, Novant Health provided more than \$883 million in community benefits, including more than \$154 million of direct charity care for low-income patients and hundreds of community health outreach programs to vulnerable and at-risk populations.

## Pilot Profile

Project leadership selected three primary care clinics in Winston-Salem, north Charlotte, and southern Charlotte as diverse geographic locations where local need and resources are sufficiently representative to combine for a meaningful and manageable sample. Except for the Adult Obesity Care Pathway (see Appendix A: Adult Obesity Care Pathway) available in the NH electronic health record (EHR), Epic, selected pilot clinics did not have defined protocols for managing patients with obesity. The three clinics consist of six medical doctors and nine advanced practice clinicians (APC) for a total of 15 healthcare providers.

### Number of Patients

#### Organization-wide

1. Baseline—594,366 active patients

2. 2018—628,173 active patients

#### Pilot clinics

3. Baseline—11,487 active patients

4. 2018—5,989 (average 4 quarters) active patients

5. 2019—6,668 (quarter 1) active patients

## Acronym Legend

**APC:** Advanced Practice Clinicians

**BMI:** Body Mass Index

**EHR:** Electronic Health Record

**NH:** Novant Health

**PCP:** Primary Care Provider

## Executive Summary

Because the Adult Obesity Care Pathway was standard and available to the three pilot clinics, the pathway served as the model for testing obesity treatment options in a primary care setting. The care pathway is designed to serve as a tool providers can use to evaluate and treat adult obesity with standardized care processes based on evidence-based guidelines. Leadership expects providers to use the pathway more consistently as it becomes more established. Pilot study interventions included incentivizing obesity treatment by utilizing the organization-wide non-productivity bonus metric, clearly defining primary care level intervention as part of the Adult Obesity Care Pathway algorithm. In addition, the project team conducted a best practice standard review to identify additional opportunities for a pilot study.<sup>1,2,3</sup> While demonstrated success in achieving >5% weight loss in a primary care setting is limited, the project team determined frequency of patient interaction would be the greatest opportunity to better align the Adult Obesity Care Pathway with current best practice standards. In its original form, the Adult Obesity Care Pathway recommends follow-up to lifestyle intervention at intervals of six months, while research demonstrates better outcomes with high-intensity interactions, which can be defined as weekly. The project team tested a three-month pathway in the pilot clinics to determine if more frequent follow-up resulted in improved outcomes and/or increased referrals to a multi-disciplinary bariatric program. The pilot study also included provider education specifically focused on weight bias/stigma in health care, effective communication, and identification of services available to support lifestyle management intervention.

Organizational data collection associated with the non-productivity bonus metric showed mean weight loss with select documented interventions compared to no documented intervention, with the greatest weight loss associated with referral to bariatrics. AMGA data for percent

weight loss reveals consistent ~25% weight loss in the 1%-5% weight loss range for all weight classes in the pilot clinics. Using the same measure, the project team compared weight loss among the pilot clinics, patients treated in a multidisciplinary medical bariatric clinic, and patients undergoing bariatric surgery. The results of this comparison support organizational data with patients referred to bariatrics demonstrating the highest percentage weight loss. Providing a format in the EHR for capturing primary care provider (PCP) interventions as part of the non-productivity bonus metric resulted in identification of those interventions with most positive outcomes as defined by mean weight loss. While a referral to bariatric treatment resulted in increased weight loss, a loss of 1%-5% in ~25% of patients seen in a primary care setting is very encouraging and supports efforts to implement early intervention.

Efforts to define and standardize primary care level intervention in the pilot clinics was unsuccessful due to barriers such as concerns regarding insurance coverage, clinic access for monthly visits, and patient ability and/or willingness to comply with monthly visits. Equally, provider education was unsuccessful due to the inability to identify a delivery method that resulted in consistent participation and feedback. Through the efforts of this project, however, the identification of specific providers expressing an interest in participating in further work has led to the creation of a “phase 2” pilot. Key learnings from “phase 1” will influence “phase 2” development. Specifically, “phase 2” planning will include more in-depth work to define and remove known barriers to a standardized, monthly obesity care pathway while also testing additional options for education.

Patient selection criteria was defined as patients aged 18-74 with a body mass index (BMI) documented during the measurement year or the year prior a BMI greater than 30kg/m<sup>2</sup>. Pilot interventions included:

1. BMI assessment with documentation of an appropriate treatment goal.
2. Increase patient interaction with a three-month pathway.
3. Educate providers regarding weight bias/stigma in health care, effective communication, and identification of services available to support lifestyle management intervention.

## Interventions

### ***Non-productivity Bonus Metric***

Novant Health identifies annual physician compensation strategies that align with mission, vision, values, strategy, and system priorities. Parallel to participation in the AMGA Obesity Care Model Collaborative, Novant Health Medical Group leadership included BMI screening and documentation of a follow-up treatment plan as a metric for the entire physician network and, therefore, each pilot clinic. The creation of a SmartForm in Dimensions (Epic) allowed for the capture of provider documentation regarding BMI recognition and treatment options offered to the patient. The goal for this intervention was to meet quality goals required by at risk payors as well as 2018 Medicare Shared Savings Program (MSSP) requirements for BMI screening and follow up. In addition to system goals, the collaborative project team analyzed the data to determine if requiring documentation of patient BMI and a treatment plan improves the diagnosis of obesity and improves outcomes defined as percentage weight loss.

### ***Three-Month Pathway***

The project team asked providers to identify who had a documented BMI of greater than 30 but did not set any parameters to limit a provider from treating those with a BMI >25 and <30. To begin the pathway, the provider should ask the patient if they would like to discuss their weight and consider participating in a three-month pathway requiring monthly follow-up visits. Standardized patient education (“Your Guide to a Healthier Weight”) was provided for the pilot clinics to use during treatment. Otherwise, treatment could vary depending on provider. For documentation, a flag was created in Dimensions (Epic) to indicate a patient agreed to obesity treatment with the PCP and was actively participating in ongoing treatment. In keeping with current best practice standards, the intervention goal was to determine if increasing the frequency of interactions with the primary care team would improve patient engagement and adherence to lifestyle interventions, and/or generate referrals to a multidisciplinary program resulting in improved outcomes as defined as percentage of weight loss.

## **Provider Education**

Based on the Adult Obesity Care Pathway and due to known gaps in the availability of services in certain areas, the project team conducted a gap analysis to clearly define and educate providers regarding services available in their area and how to refer in Dimensions (Epic). The project team educated providers via email regarding weight bias/stigma and how to have an effective conversation. Also, the project team invited providers to attend an educational dinner event. Education was provided in multiple delivery methods (i.e., written, video, and in person). Recognizing the crucial role education plays in improving care for patients with obesity, the purpose of this intervention was to determine if service utilization would improve with increased knowledge of multidisciplinary services available for patient referral along with determining if provider comfort level improved after education on weight bias/stigma and how to have an effective conversation.

## **Outcomes and Results**

### **Non-productivity Bonus Metric**

Novant Health Medical Group system wide data collection associated with the non-productivity bonus metric shows mean weight loss with select documented interventions compared to no documented intervention with the greatest weight loss associated with referral to bariatrics (see Appendix B-Mean BMI Loss by Intervention). AMGA data for % weight loss reveals consistent ~25% weight loss in the 1%-5% weight loss range for all weight classes in the pilot clinics (see Appendix C-Percent Weight Change Pilot Clinics). Using the same measure, weight loss was compared between the pilot clinics, patients treated in a multidisciplinary medical bariatric clinic, and patients undergoing bariatric surgery (see Appendix D1-4-Comparison Percent Weight Change). The results of this comparison support organizational data, with patients referred to bariatrics demonstrating the highest percentage of weight loss. Providing a format in the EHR for capturing PCP interventions as part of the non-productivity bonus metric resulted in identification of those interventions with most positive outcomes as defined by mean weight loss. While a referral to bariatric treatment resulted in increased weight loss, a loss of 1%-5% in ~25% of patients seen in a primary care setting is very encouraging and supports efforts to implement early intervention. The non-productivity bonus

metric resulted in only a slight increase in patients with a diagnosis of obesity from 2017 Q3 to 2019 Q2 (see Appendix E-Documentation of Obesity Diagnosis).

### **Three-Month Pathway**

Efforts to define and standardize primary care level intervention in the pilot clinics were unsuccessful due to barriers such as concerns regarding insurance coverage, clinic access for monthly visits, and patient ability and/or willingness to comply with monthly visits. Pilot clinic providers implemented individual treatment options for identified patients but, for the purpose of this study, the actual number of patients flagged in the EHR as participating in the three-month pathway was too low for meaningful data analysis.

### **Provider Education**

Overall, education was considered ineffective due to the inability to identify a delivery method that resulted in consistent participation and feedback.

## **Lessons Learned and Ongoing Activities**

### **Non-productivity Bonus Metric**

While the actual treatment interventions vary, data revealed that requiring providers to document BMI and an intervention resulted in greater mean weight loss. By identifying the specific interventions resulting in the greatest weight loss, future work can be focused on those that were most effective. Maximizing the functionality of the EHR could result in an increase in patient diagnoses. Ongoing efforts will be placed on provider education regarding documentation options that can facilitate the next step of entering a patient diagnosis of obesity.

### **Three-Month Pathway**

The current landscape of insurance coverage for obesity services makes implementing a consistent, standardized care pathway difficult in an environment with as broad a scope as primary care. Better education regarding coverage and billing and coding could help allay provider concerns that may be limiting treatment. Also, the decision to use three different pilot clinics offered challenges to achieving standardization due to variation in clinic operations. Ongoing work to determine a standardized care pathway may be better accomplished with

a group of individual providers who are actively involved in study planning and who are able to make clinic adjustments as needed.

## **Provider Education**

Primary care clinics are a fast-paced environment with little downtime for education review. While initial education attempts were not generally effective, some providers who participated in the dinner education events have surfaced as “champions” and expressed interest in future work. Ongoing education opportunities will include these providers with an expressed interest and will offer a clear, objective format for receiving education evaluations.

---

## **References**

1. *Published Recommendations.* U.S. Preventive Services Task Force. uspreventiveservicestaskforce.org/BrowseRec/Search?s=obesity
2. American Diabetes Association: Standards of Medical Care in Diabetes-2018. *Diabetes Care* 2018 Jan; Vol 41: 65-72.
3. National Health Heart, Lung, and Blood Institute. Managing Overweight and Obesity in Adults: Systematic Evidence Review from the Obesity Expert Panel, 2013. 75-89.

# Appendix A

## Obesity Care Pathway

1 | Page

### Management of adult obesity

#### BACKGROUND

This clinical pathway addresses the management of adult obesity as defined by body mass index (BMI) and the following classes based on BMI: Overweight, defined as a BMI of 25 to 29.9 kg/m<sup>2</sup>; Class I obesity, defined as a BMI of 30 to 34.9 kg/m<sup>2</sup>; Class II obesity, defined as a BMI of 35 to 39.9 kg/m<sup>2</sup>; and Class III (or severe) obesity, defined as a BMI  $\geq 40$  kg/m<sup>2</sup>. The medical rationale for treatment of obesity is its association with a significant increase in many health risks, including type 2 diabetes mellitus, hypertension, dyslipidemia, coronary heart disease, stroke, obstructive sleep apnea, osteoarthritis and some cancers. Obesity is also associated with increased risk in all-cause and cardiovascular disease (CVD) mortality<sup>1</sup>. The higher the patient's BMI, the greater the risk of morbidity and mortality<sup>2</sup>. The biomedical, psychosocial, and economic consequences of obesity also have substantial implications for the health and well-being of our patients<sup>1</sup>. More than 78 million adults in the United States were obese in 2009–2010. Current estimates are that 69% of adults are either overweight or obese with approximately 35% obese<sup>3</sup>.

The scope of this care pathway includes the evaluation and treatment of adult obesity. The goal is to create a tool that providers can use to standardize care processes based on evidence-based guidelines. Ultimately, by reducing clinical variation, improved patient outcomes are expected.

#### RECOMMENDATIONS

The recommendations here are based primarily on UpToDate guidelines with additional Novant Health-specific recommendations added. The clinical algorithm for management is in **Figure 1** and additional recommendations are included in **Table 1**.

1. Screen all adult patients for obesity using BMI
2. Assess for medical causes of weight gain including hypothyroidism and Cushing's syndrome
3. Perform brief intervention in primary care office focused on obesity-specific education:
  - Communicate in an empathetic and non-judgmental way such as motivational interviewing<sup>4</sup> (see **Table 2**)
  - Emphasize long-term lifestyle changes including healthy nutrition, regular activity, behavioral modification, stress management and sleep hygiene
  - Consider assessment and documentation for readiness to change (see **Table 3**)
  - Determine appropriate and realistic weight loss and health goals and interventions, recognizing that an initial weight loss goal of 5 to 7 percent of body weight is realistic for most individuals<sup>2</sup>
4. Evaluate current medications for contribution to weight gain (see **Table 4**). Consider using alternative agents with less potential for weight gain<sup>5</sup>
5. Reassess progress toward goals, adherence to and comprehension of plan at scheduled follow-up visits determined by treatment plan
6. Consider addition of pharmacotherapy if lifestyle interventions are not successful
7. Consider referral to multidisciplinary weight management program including consideration for bariatric surgery if interventions are not successful

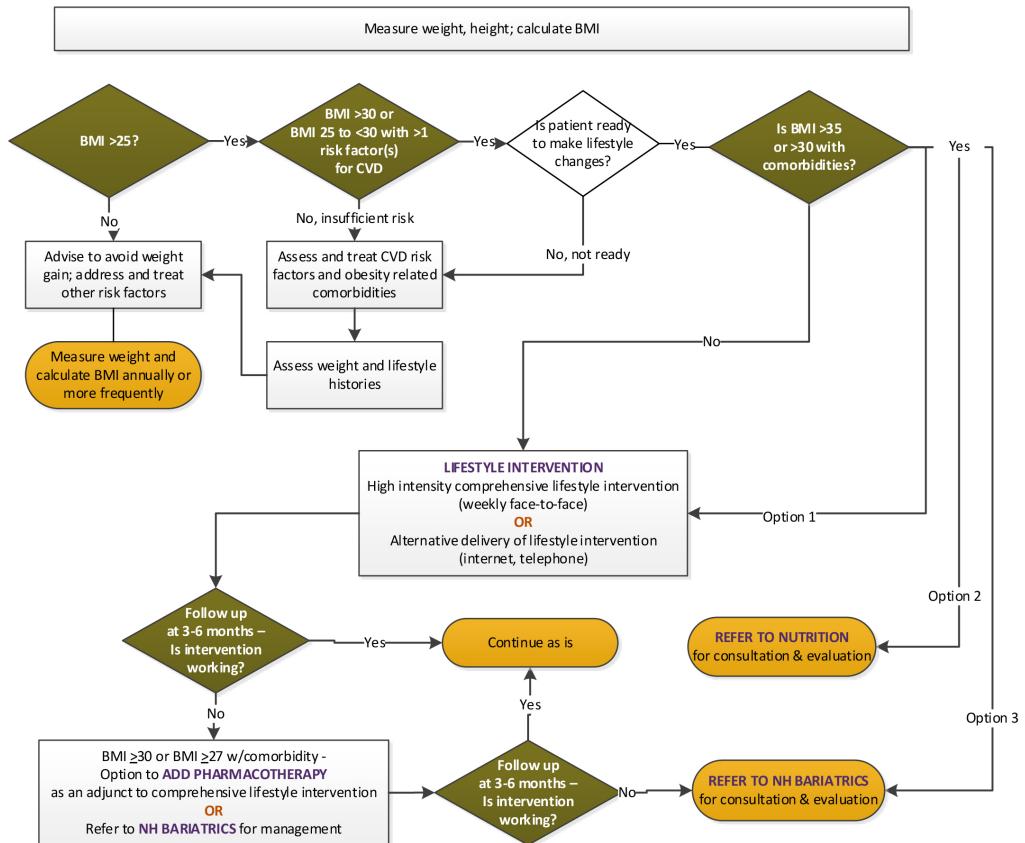
Adult obesity v14 2017 0510.docx

# Appendix A

Figure 1: Clinical algorithm (primarily based on UpToDate<sup>6</sup>)

**Comorbidities to consider:**

- Type 2 diabetes mellitus
- Hypertension
- Dyslipidemia
- Coronary heart disease
- Stroke
- Obstructive sleep apnea
- Osteoarthritis
- Polycystic ovary syndrome
- Pseudotumor cerebri



**Table 1: Primary stages of treatment of obesity in adults**

## 1: Lifestyle Management

A comprehensive lifestyle intervention made up of combined diet, exercise, and behavioral treatment, is the most important strategy for weight management.<sup>2</sup>

- **Nutrition:** Emphasize reductions in refined carbohydrates, processed meats, and foods high in sodium and trans fat
- **Exercise:** at least 30 minutes a day, on 5 or more days of the week
- **Behavior modification:** Includes lifestyle interventions such as self-monitoring, stimulus control, setting realistic goals, nutrition education, social support, stress management, coping skills, etc.
- **Sleep hygiene:** goal for most patients is 7 hours per night<sup>7</sup>

## 2: Pharmacologic Management

For individuals with a BMI  $\geq 30$  kg/m<sup>2</sup> or a BMI of 27 to 29.9 kg/m<sup>2</sup> with comorbidities, who have failed to achieve weight loss goals through diet and exercise alone, we suggest pharmacologic therapy be added to lifestyle intervention.<sup>2,8</sup>

- Use approved FDA medications (see **Table 5**)
- Requires thorough discussion of drug side effects, complications, cost and coverage with consent and documentation of birth control

## 3: Surgical Management

- For patients with BMI  $\geq 40$  kg/m<sup>2</sup> who have failed diet, exercise, and drug therapy, we suggest bariatric surgery.
- The NIH also suggested that adults with a BMI  $\geq 35$  kg/m<sup>2</sup> who have serious comorbidities such as severe diabetes, sleep apnea, or joint disease may also be candidates.<sup>2</sup>
- Surgical options include:
  - Laparoscopic sleeve gastrectomy
  - Laparoscopic gastric bypass
  - Laparoscopic adjustable gastric banding

**Table 2: The 5 R's<sup>9</sup> (adapted from smoking cessation model)**

### Relevance

- Encourage the patient to indicate why losing weight is personally relevant

### Risks

- Ask the patient to identify potential negative consequences of losing weight

### Rewards

- Ask the patient to identify potential benefits of losing weight

### Roadblocks

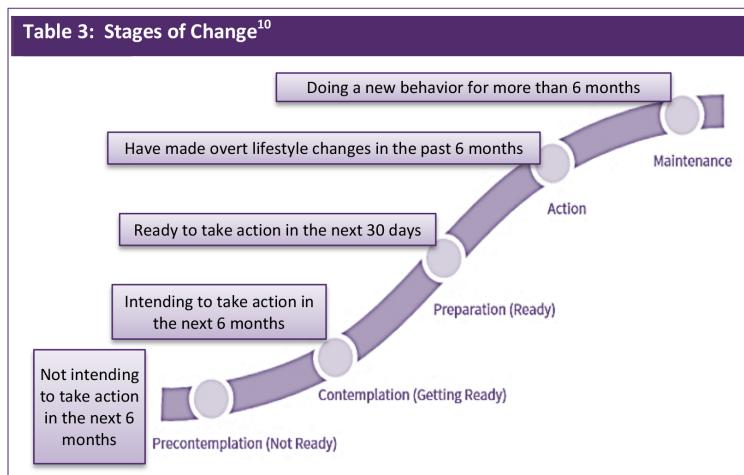
- Ask the patient to identify barriers or impediments to losing weight

### Repetition

- The motivational intervention should be repeated at every interaction with a clinician

# Appendix A

**Table 3: Stages of Change<sup>10</sup>**



**Table 4: Medications That Cause Weight Gain**

**Therapeutic alternatives**

Insulin Sulfonylureas (glipizide, glyburide, glimepiride) Thiazolidinediones (TZDs)	Use in combination with metformin, GLP-1 agonists or pramlintide
Beta & alpha blockers	Consider ACE inhibitor, ARB, or calcium channel blocker as first-line therapy Consider carvedilol or nebivolol over other beta blockers
Antidepressants (paroxetine, SNRIs, mirtazapine) Tricyclic antidepressants/TCAs (amitriptyline, nortriptyline)	Consider other SSRIs (sertraline, fluoxetine, citalopram), or bupropion Consider imipramine over other TCAs (less likely to cause weight gain)
Antipsychotics (olanzapine, chlorpromazine, clozapine, quetiapine, risperidone)	Consider weight-neutral alternatives (iloperidone, ziprasidone, aripiprazole, haloperidol)
Antiepiletics (valproic acid, gabapentin, pregabalin, carbamazepine)	Consider agents associated with weight loss (zonisamide, topiramate, felbamate) or are weight-neutral (lamotrigine, levetiracetam, phenytoin)
Progestational steroids	Consider combination oral contraceptives, IUDs or barrier methods
Corticosteroids for rheumatoid arthritis	Consider NSAIDs and/or DMARDs

# Appendix A

5 | Page

**Table 5: Comparison of Medications Used for Weight Loss<sup>11,12</sup> (as of 3/27/17)**

	Phentermine (& diethylpropion, phendimetrazine)	Phentermine/topiramate ER/	Lorcaserin	Orlistat	Naltrexone ER / bupropion ER	Liraglutide
<b>Brand Name</b>	Adipex / Lomaira	Qsymia	Belviq / Belviq XR	Xenical (Rx) / Alli (OTC)	Contrave	Saxenda
<b>Dosing Frequency</b>	Daily / TID	Daily	BID / Daily	TID	BID	Daily
<b>Usual Dosing Range (mg/day)</b>	8 – 37.5 (use lowest effective dose)	3.75/23 – 7.5/46	---	120-360	8/90mg (1 tab) – 32/360mg (4 tabs) Titrate over 4 weeks	0.6 – 3 Titrate weekly over 6 weeks
<b>Usual Starting Dose</b>	15mg daily	3.75/23mg daily	10mg BID / 20mg daily	60-120mg TID AC	8/90mg (1 tab) daily	0.6mg
<b>Max Daily Dose</b>	37.5mg	15/92mg	20mg	120mg TID AC	32/360mg (4 tabs)	3mg
<b>Mechanism of Action</b>	Norepinephrine-releasing agent	GABA receptor modulator + norepinephrine releasing agent	5-HT2c receptor agonist	Pancreatic and gastric lipase inhibitor	Opioid antagonist + dopamine and norepinephrine reuptake inhibitor	GLP-1 agonist
<b>Recommended Duration of Use</b>	Short-term use (3 months)	Chronic use (>6 months)	Chronic use (>6 months)	Chronic use (>6 months)	Chronic use (>6 months)	Chronic use (>6 months)
<b>Average decrease in weight over control</b>	Up to 7%	6.6-8.6%	3.6%	3%	4.8%	5%
<b>Price*</b>	\$	\$\$\$	\$\$\$	\$\$\$\$ (Rx); \$\$ (OTC)	\$\$\$	\$\$\$\$
<b>Use in Women of Reproductive Age</b>	Use contraception – d/c use if pregnancy occurs	Teratogenic – use contraception & monthly pregnancy tests (risk of cleft palate)	Use contraception – d/c use if pregnancy occurs	Use contraception – d/c use if pregnancy occurs	Use contraception – d/c use if pregnancy occurs	Use contraception – d/c use if pregnancy occurs
<b>Preferred for patients with</b>	Hunger is 1 <sup>o</sup> issue, low metabolism, no major medical issues Younger (<55yo)	Hunger & cravings, binging, post-menopausal women	Diabetics, unable to take phentermine, women of reproductive potential	Hyperlipidemia, significant CVD	Hunger & cravings, tobacco users, EtOH dependency, already taking bupropion	T2DM
<b>Renal Dose Adjustments</b>	---	CrCl < 50mL/min: Consider max dose of 7.5/46mg/day	Not recommended in severe renal impairment / ESRD	---	CrCl < 50mL/min: Consider max dose of 1 tab BID ESRD: Not recommended	Initiate and increase dose cautiously
<b>Hepatic Impairment Dose Adjustments Mild-Moderate</b>	---	Max dose of 7.5/46mg daily	---	Monitor for cholelithiasis	Max dose of 1 tab QAM	Monitor for cholelithiasis
<b>Severe</b>	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended
<b>Contraindications</b>	Uncontrolled HTN, heart disease, anxiety disorder, seizure disorder, use of MAO inhibitors, hyperthyroidism, glaucoma, hx of drug abuse	Hx of nephrolithiasis See phentermine also	CHF, bradycardia	Chronic malabsorption, cholestasis, use of levothyroxine, warfarin, or AEDs, cyclosporine separate by 3 hrs from orlistat	Uncontrolled HTN, seizure disorder, anorexia nervosa, bulimia, drug withdrawal, use of MAO inhibitors, use of chronic opioids,	Hx of medullary thyroid cancer, hx of multiple endocrine neoplasia type 2, prior or current pancreatitis
<b>Precautions</b>	Hypoglycemia in T2DM, valvular heart disease, limit caffeine/energy drinks, elevated resting HR	Abrupt d/c may precipitate seizure, See phentermine also	Use of SSRI, SNRI, St John's wort, triptans, or bupropion, valvular heart disease, hypoglycemia	Hx of calcium oxalate nephrolithiasis	Elevated HR, Bipolar disorder, narrow angle glaucoma, hypoglycemia in T2DM, suicidal Ideations	Hypoglycemia in T2DM, insulin, gastroparesis,
<b>Common ADRs</b>	HA, elevated BP, insomnia, tremor, restlessness, dry mouth, tachycardia, diarrhea, urticaria, impotence, ischemic events, psychosis, euphoria, dysphoria	Paresthesia, dizziness, dysgeusia See phentermine also	HA, nausea, dry mouth, dizziness, fatigue, constipation	↓ absorption of fat-soluble vitamins, steatorrhea, oily spotting, fecal urgency / incontinence, oily evacuation, flatulence w/ discharge	HA, nausea, vomiting, diarrhea, constipation, dizziness	Nausea, vomiting, pancreatitis, HA

\*Per 30 day supply: \$ (≤ \$30), \$\$ (\$31-100), \$\$\$ (\$101-300), \$\$\$\$ (> \$300)    \*\*Insurance coverage: most insurance companies require prior authorization to use most of these medications. Manufacturers do provide co-pay assistance for qualifying patients (i.e., commercial insurance or cash). Review each program's eligibility requirements for additional information.

Adult obesity v14 2017 0510

# Appendix A

6 | Page

## TEAM

Name	Specialty/ Novant Health clinic
<b>Submitted by:</b>	
David Voellinger , MD	Novant Health Bariatric Solutions, physician champion
Bob Eberle, MD	Novant Health Forsyth Internal Medicine
Mayssoun Elchoufi, MD	Novant Health Bariatric Solutions
Caitlin M. Moorman Spangler, Pharm-D, BCACP	Novant Health Care Connections Clinical Pharmacist
<b>Reviewed by:</b>	
Elizabeth Nelson, FNP-BC	Novant Health Cotswold Medical Clinic
Tami Kannan, MD	Novant Health Prosperity Family Physicians
James Dasher, MD	Novant Health Bariatric Surgeon Triangle Medical Group
Thomas Walsh, MD	Novant Health Bariatric Surgeon Triangle Medical Group
Regina Gordon, RN, RD, LDN	Manager, Bariatric Program

## REFERENCES/LINKS

1. Jensen MD, Ryan DH, Apovian CM, et al. 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. *J Am Coll Cardiol.* 2014; 63(25\_PA): doi:10.1016/j.jacc.2013.11.004.  
<http://content.onlinejacc.org/article.aspx?articleid=1770219>
2. UpToDate Obesity in adults: Overview of management <http://www.uptodate.com/contents/obesity-in-adults-overview-of-management?source=machineLearning&search=importance+of+weight+loss&selectedTitle=3%7E150&sectionRank=1&anchor=H11#H1>
3. Ogden CL, Carroll MD, Kit BK, et al. (2012) Prevalence of obesity in the United States, 2009-2010. NCHS Data Brief, 1-8
4. UpToDate Motivational Interviewing: <https://www.uptodate.com/contents/overview-of-psychotherapies?source=machineLearning&search=motivational%20interviewing%20learning%20module&selectedTitle=2~150&sectionRank=1&anchor=H432862274#H432862274>
5. Apovian, CM, Garvey, WT, & Ryan, DH. Challenging Obesity: Patient, Provider, and Expert Perspectives on the Roles of Available and Emerging Nonsurgical Therapies. *Obesity* (Silver Spring, Md.), 23(0 2), S1-S26. <http://doi.org/10.1002/oby.21140>
6. UpToDate Overweight and obesity: Evaluation and treatment algorithm [http://www.uptodate.com/contents/image?imageKey=ENDO%93424&topicKey=ENDO%2F5371&source=outline\\_link&search=importance+of+weight+loss&selectedTitle=3%7E150&utd\\_Popup=true](http://www.uptodate.com/contents/image?imageKey=ENDO%93424&topicKey=ENDO%2F5371&source=outline_link&search=importance+of+weight+loss&selectedTitle=3%7E150&utd_Popup=true)
7. Patel SR, Hu FB. Short sleep duration and weight gain: a systematic review. *Obesity* (Silver Spring) 2008; 16: 643-653. [PMC free article] [PubMed]
8. Apovian CM, Aronne, LJ, Bessesen, DH, et al. Pharmacological Management of Obesity: An Endocrine Society Clinical Practice Guideline. 2015; 100 (2): 342-362. doi: 10.1210/jc.2014-3415. <http://press.endocrine.org/doi/pdf/10.1210/jc.2014-3415>
9. The 5 R's of Motivation (diagram included in pathway was adapted from smoking cessation model): [www.larasig.com/node/1088](http://www.larasig.com/node/1088)
10. Prochaska, J.O., Redding, C.A., & Evers, K. (2002). The Transtheoretical Model and Stages of Change. In K. Glanz, B.K. Rimer & F.M. Lewis, (Eds.) *Health Behavior and Health Education: Theory, Research, and Practice* (3rd Ed.). San Francisco, CA: Jossey-Bass, Inc.
11. Apovian C, et al. "Pharmacological Management of Obesity: An Endocrine Society Clinical Practice Guideline." *J Clin Endocrinol Metab.* 2015; 100:342-362.
12. Garvey WT, et al. "American Association of Clinical Endocrinology and American College of Endocrinology Comprehensive Clinical Practice Guidelines for Medical Care of Patient with Obesity." *Endocr Prac.* 2016; 22 (Supp 3).
13. <https://www.nhlbi.nih.gov/research/resources/obesity/education/clinical-guidelines.htm>

Adult obesity v14 2017 0510

## KEY METRICS

**Metric 1:** Percentage of patients 18–74 years old with OP visit that had a BMI documented during the measurement year or the year prior to the measurement year. (HEDIS)

**Metric 2:** Percentage of patients with BMI greater than 30 with intervention offered (i.e., lifestyle education, printed material, referral to nutrition or multidisciplinary weight management clinic, etc.)

## CARE PATHWAY REVIEW

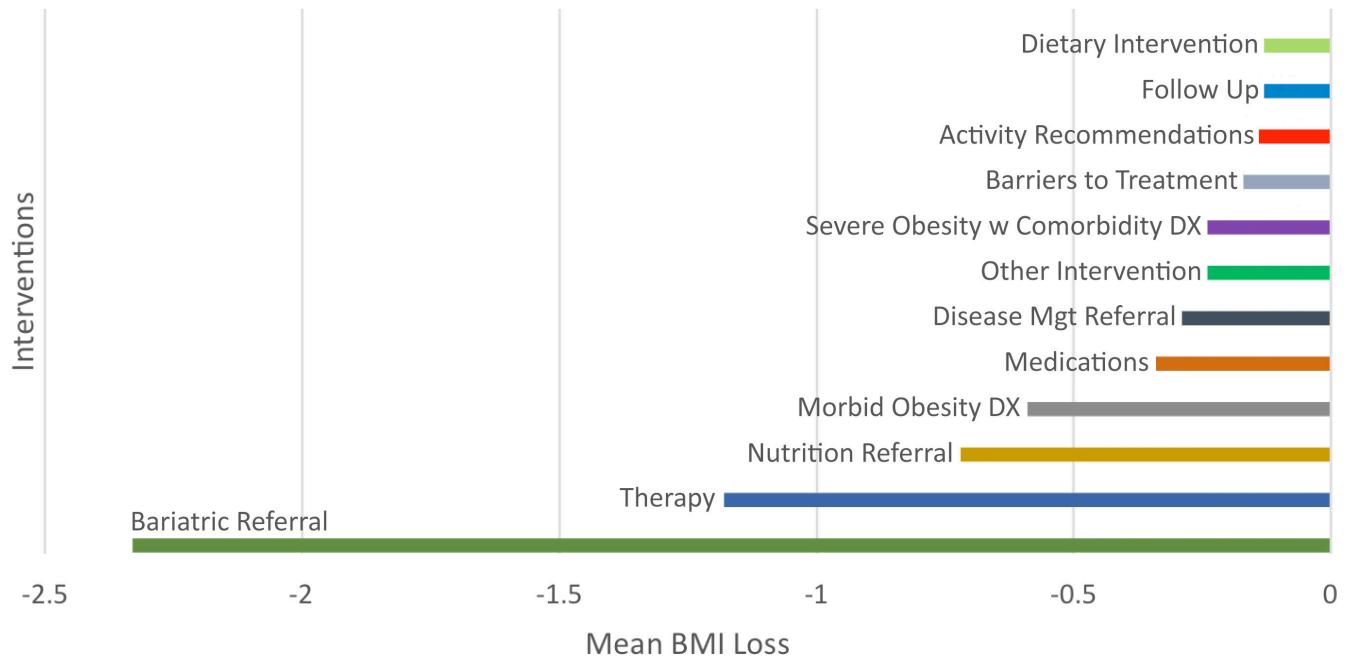
**Expected frequency for re-visiting recommendations for changes or advances in research:** →Every 6-12 months

## Reviews initiated by:

→ Quality Operations Team and David Voellinger, MD, physician champion

## Appendix B

### Mean BMI Loss by Intervention

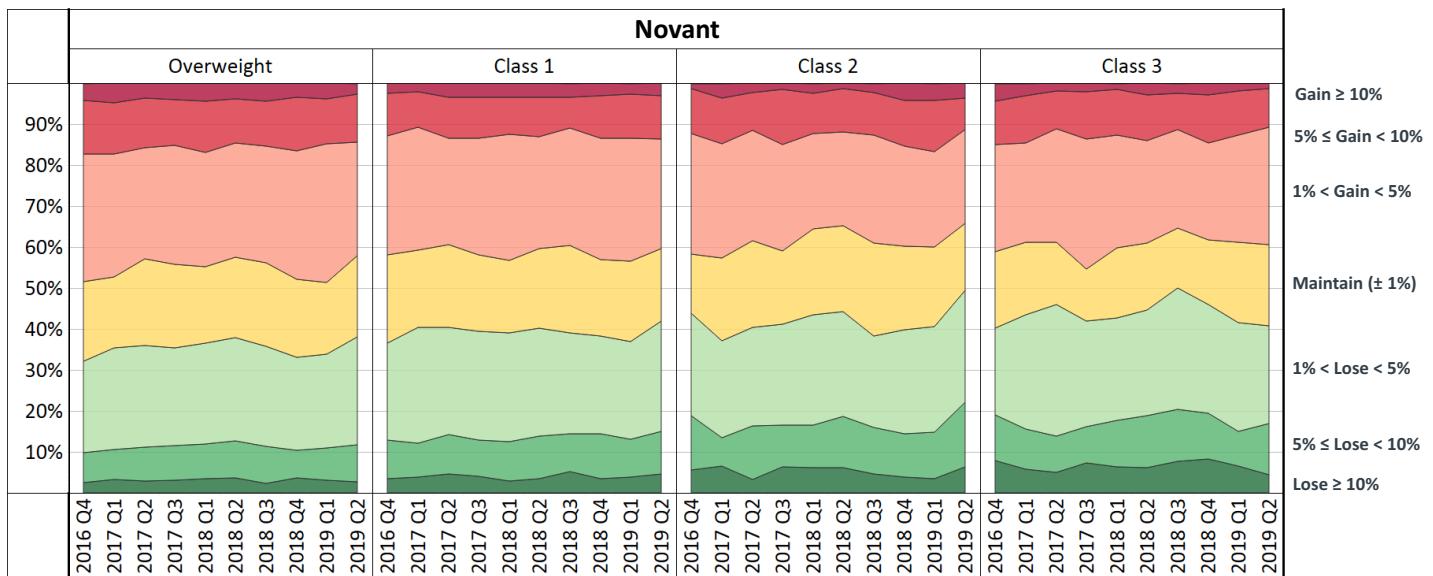


## Appendix C

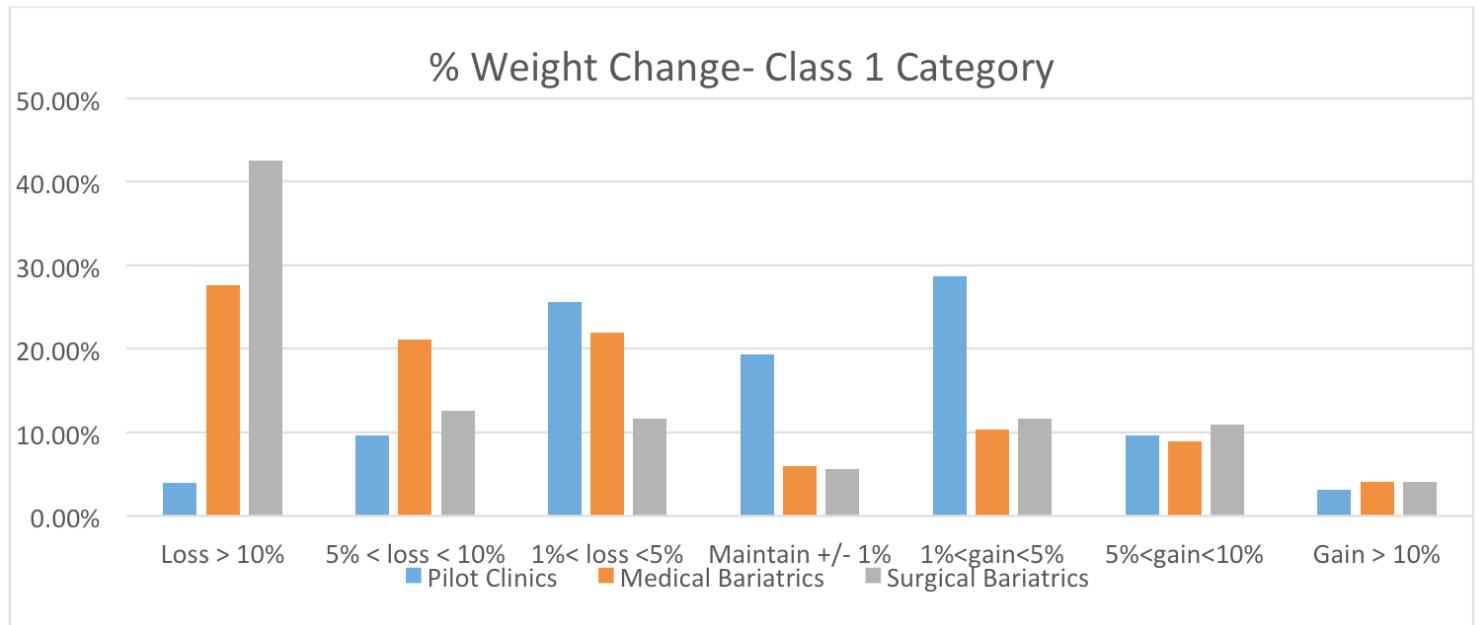
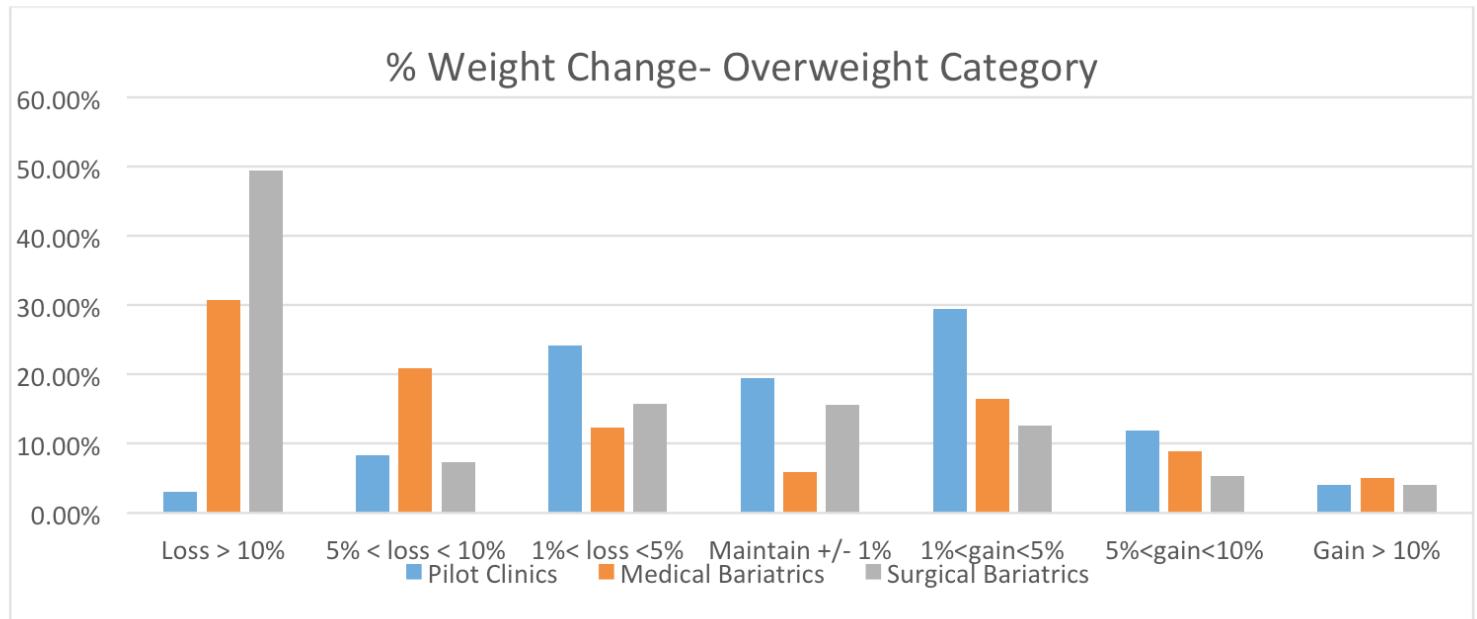
### Measure 6: Proportion of Patients by Percent Weight Change



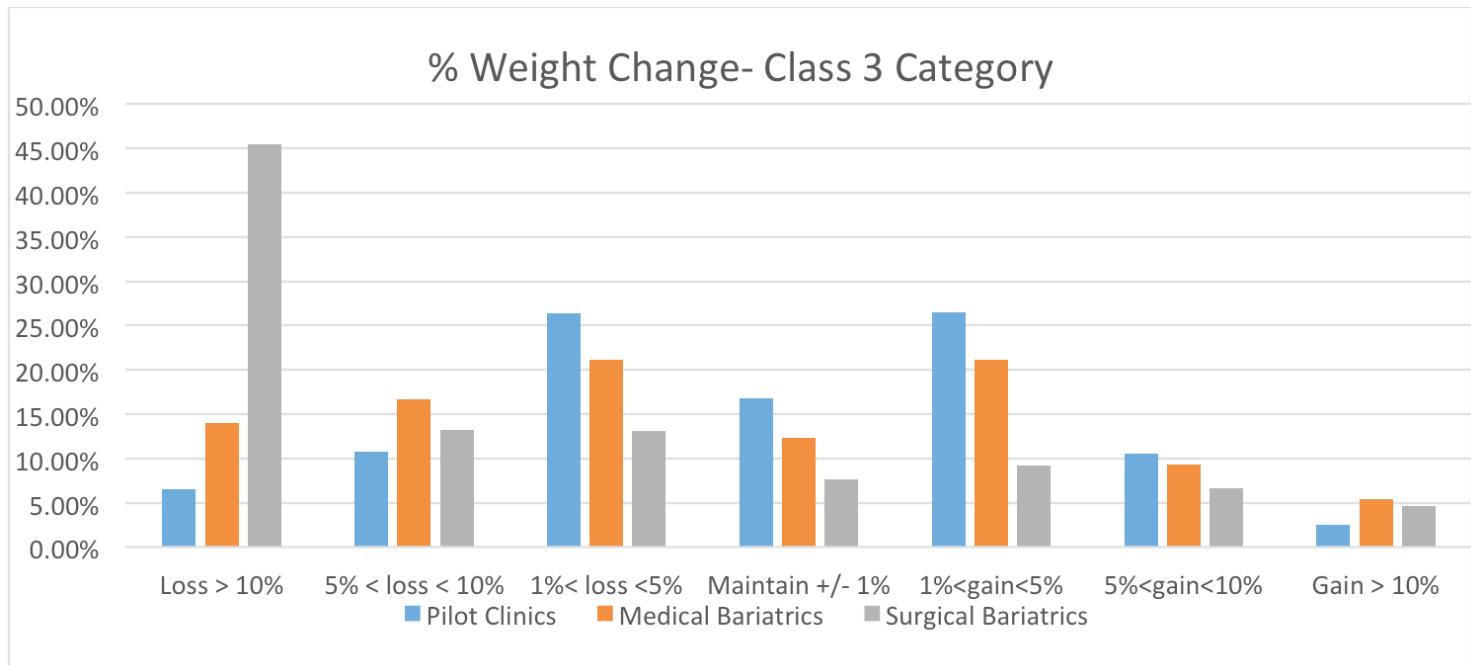
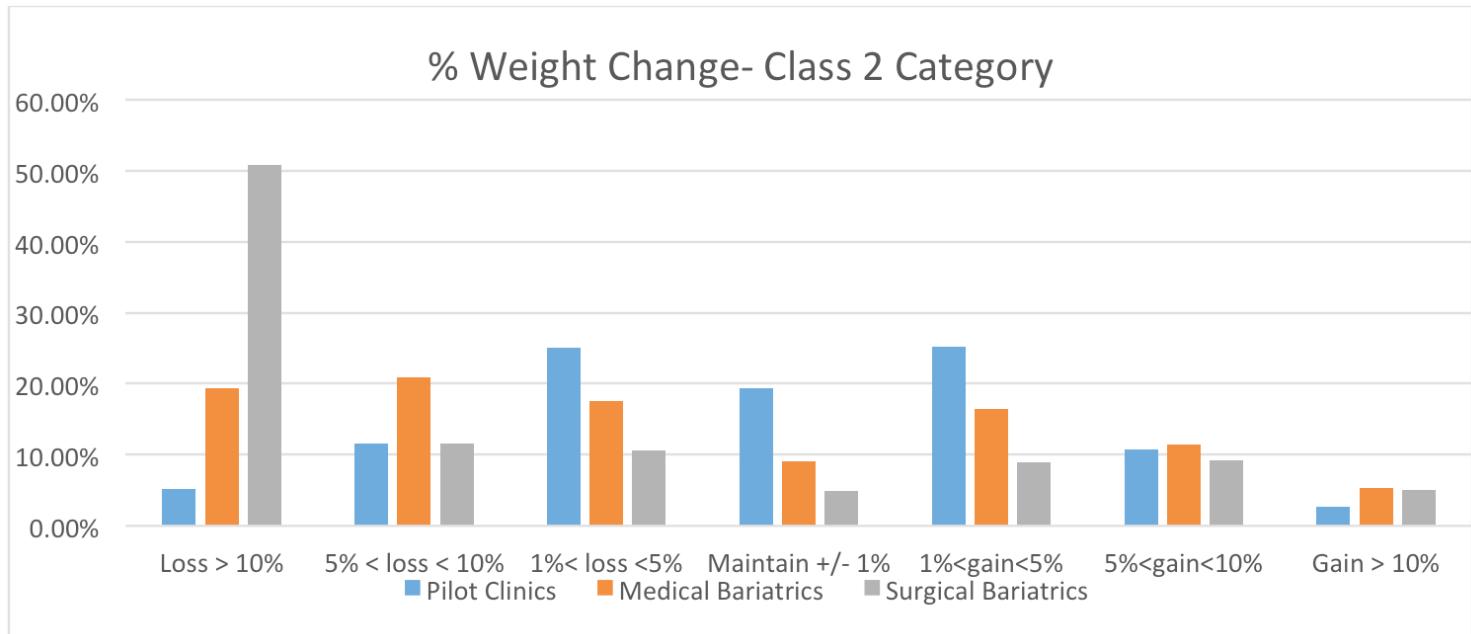
- By reporting period, weight class and 7 weight categories



## Appendix D

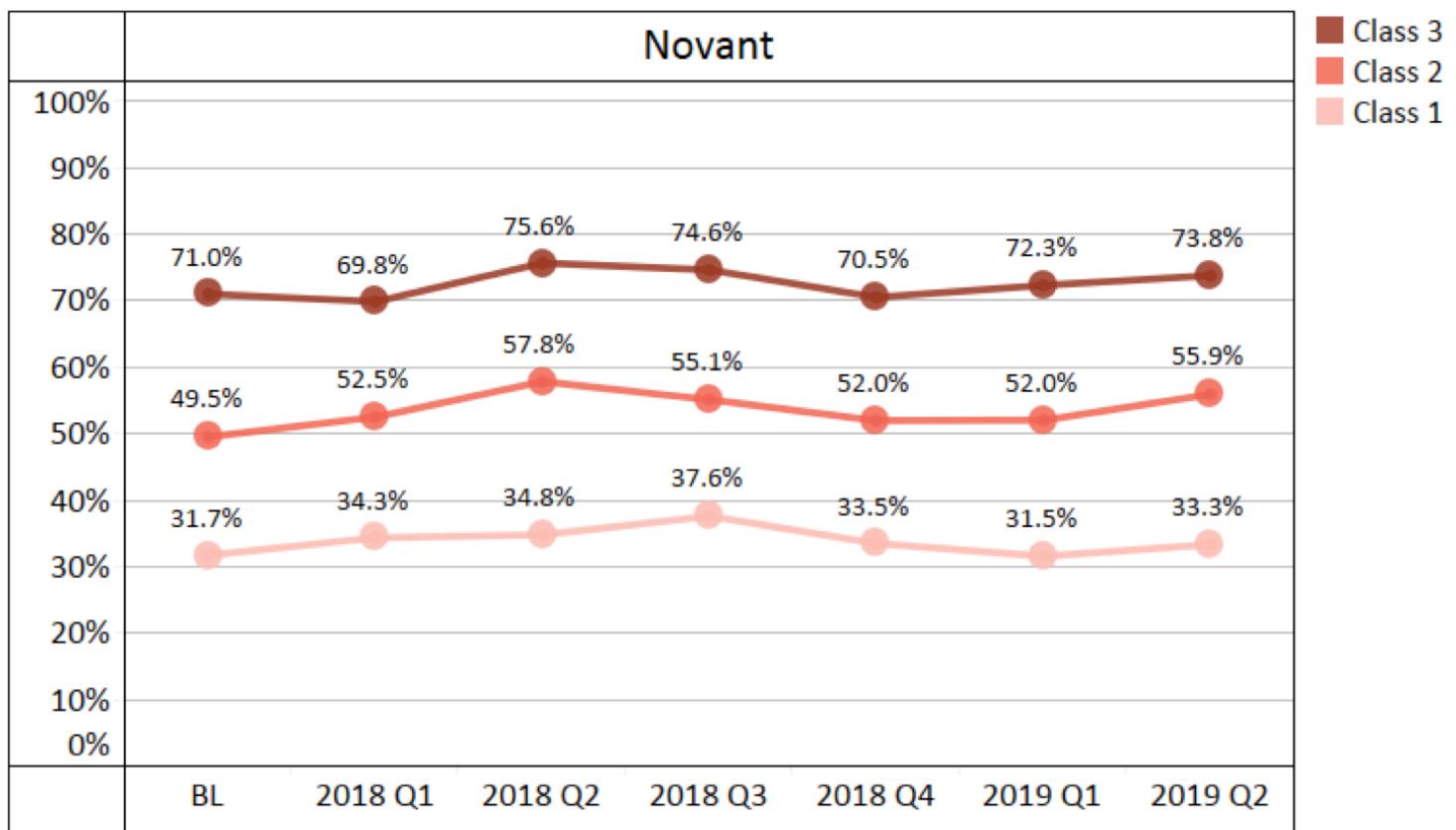


## Appendix D



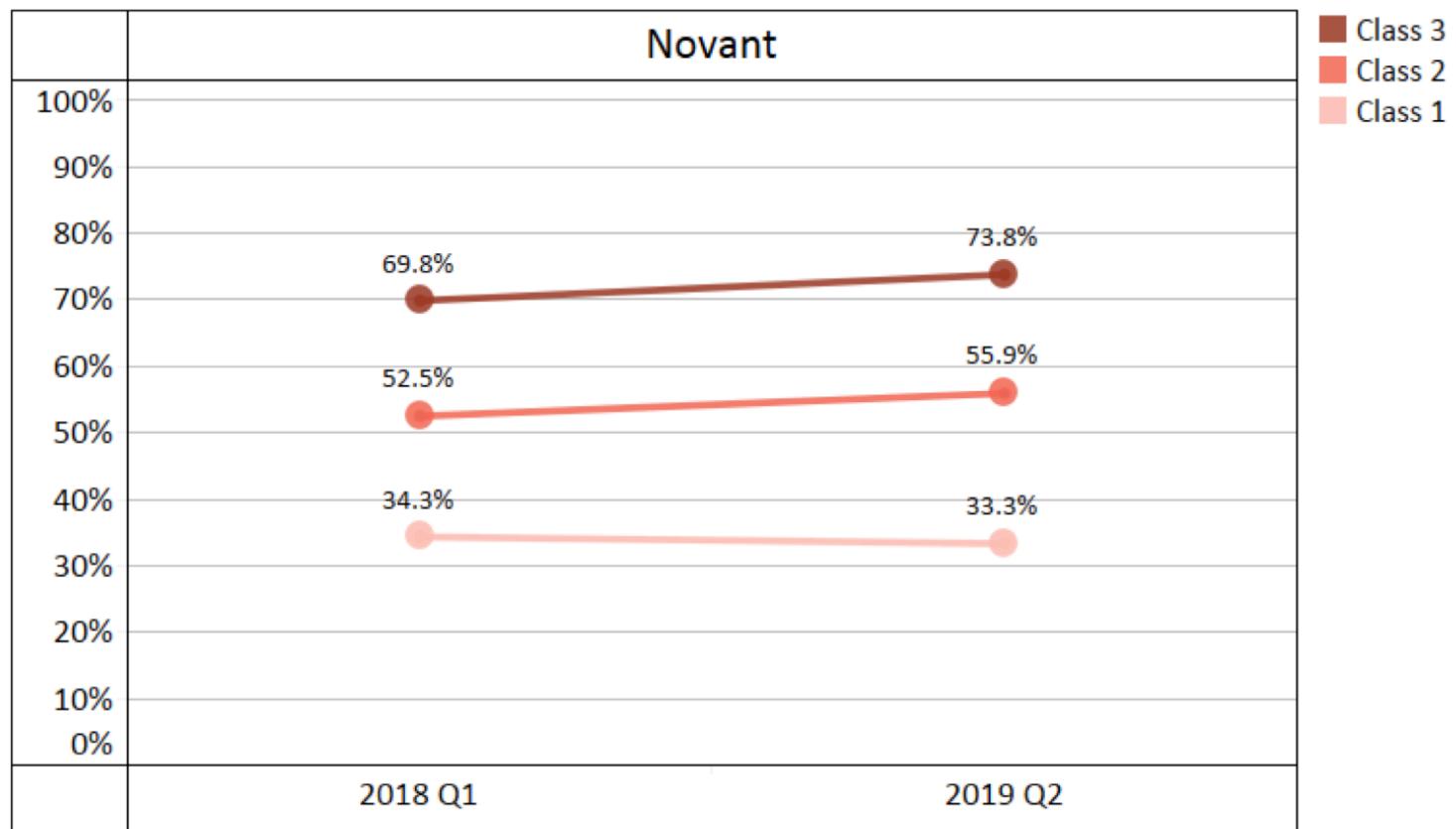
## Appendix E

### Documentation of Obesity Diagnosis



## Appendix E

### Documentation of Obesity Diagnosis

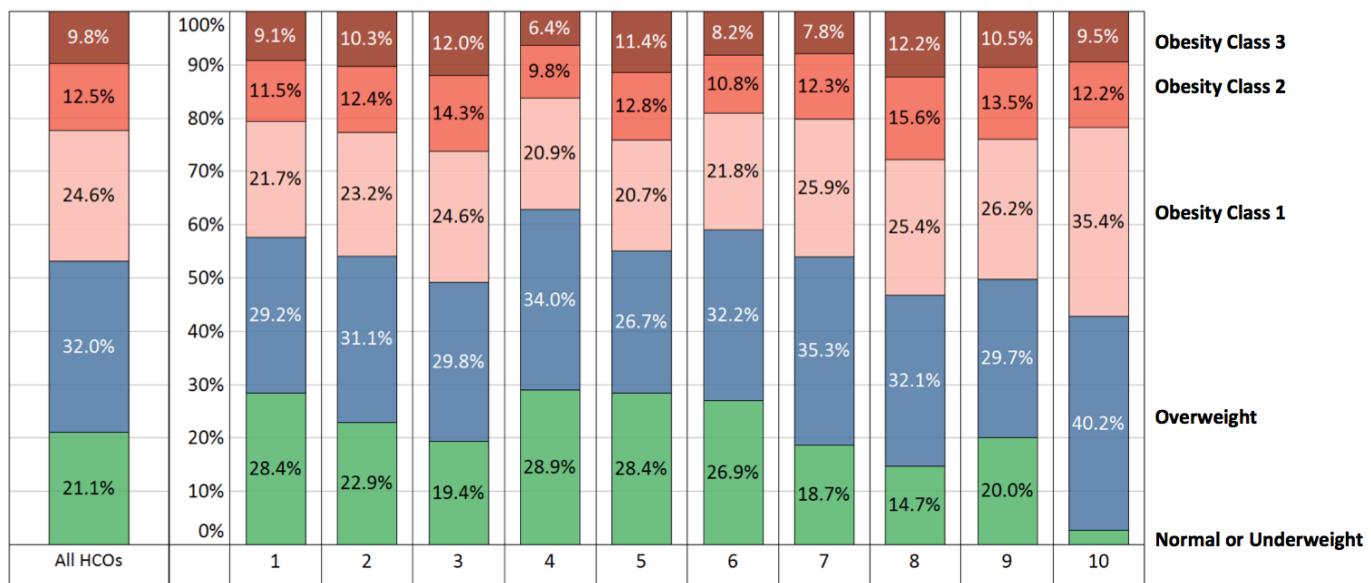


# Appendix

## Final Data Report from AMGA Obesity Care Model Collaborative

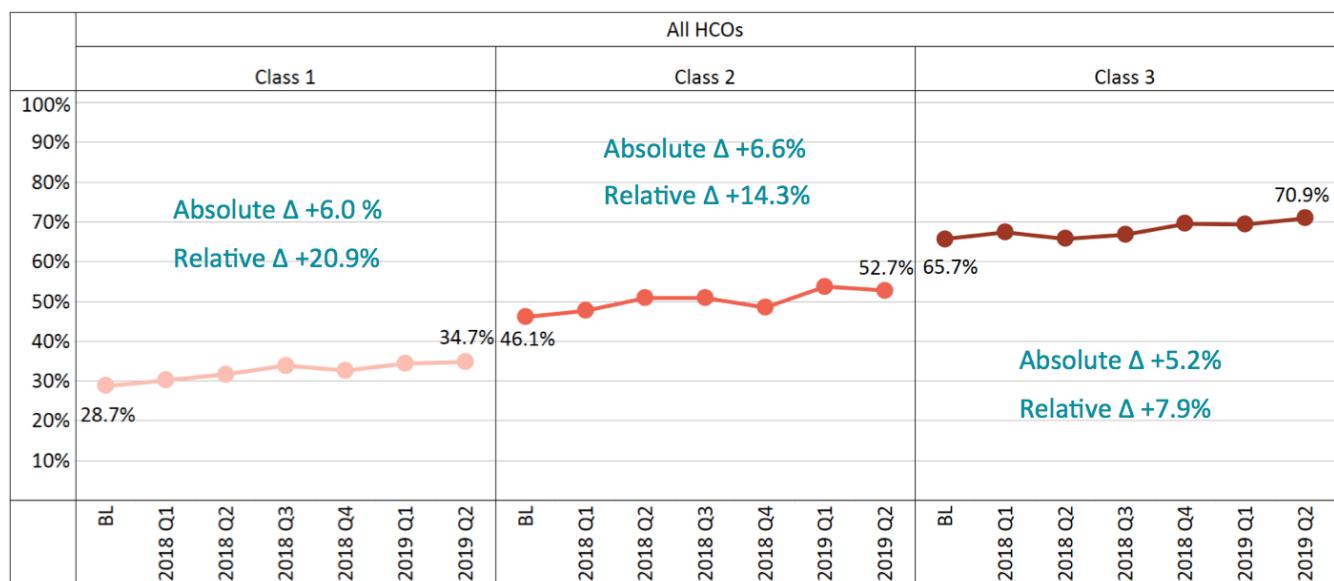
### Prevalence of Overweight and Obesity: 2019 Q2

Targeted clinics for OCMC (~122,000 total patients)



### Collaborative Performance: Documentation of Obesity Diagnosis

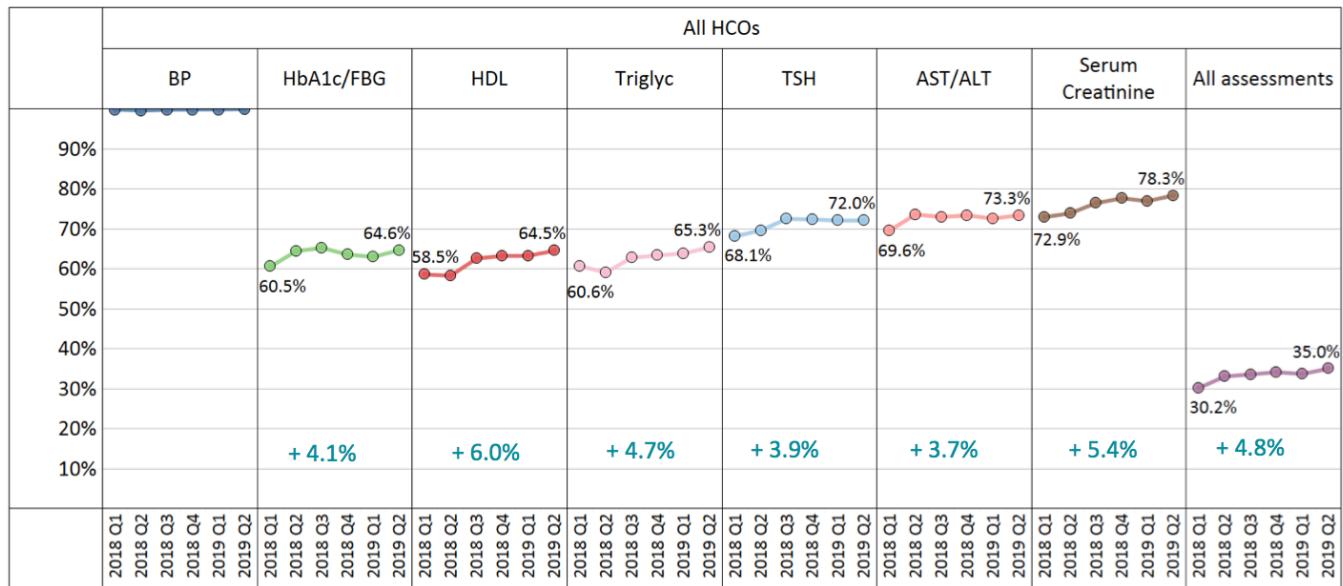
- Proportion of patients with **BMI  $\geq 30$**  who have a documented obesity diagnosis in **Targeted Clinics**
- ICD10: E66.01, E66.09, E66.2, E66.8, E66.9



# Appendix

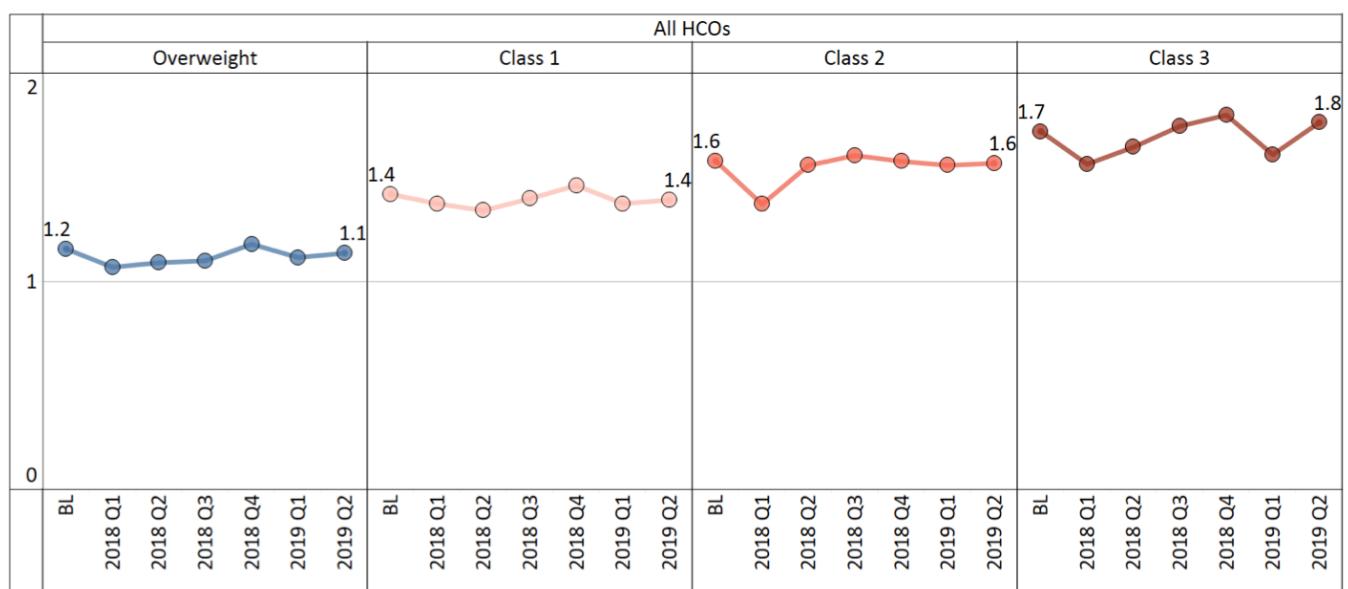
## Assessment for Obesity-Related Complications

- Proportion of patients ( $BMI \geq 25$ ) with select laboratory assessments by reporting period, in Targeted Clinics
- All assessments remain low but overall improvement since 2018 Q1
- HDL and Serum Creatinine demonstrated some of the largest absolute improvements; **6% and 5%, respectively**



## Average Number Obesity-Related Complications Per Patient

- Average Number of obesity-related complications per patient ( $BMI \geq 25$ ) by weight class and reporting period
- 6 complications: Type 2 Diabetes, Dyslipidemia, Hypertension, Obstructive Sleep Apnea, Osteoarthritis, Nonalcoholic Fatty Liver Disease



## Appendix

### Obesity-Related Problem Scale

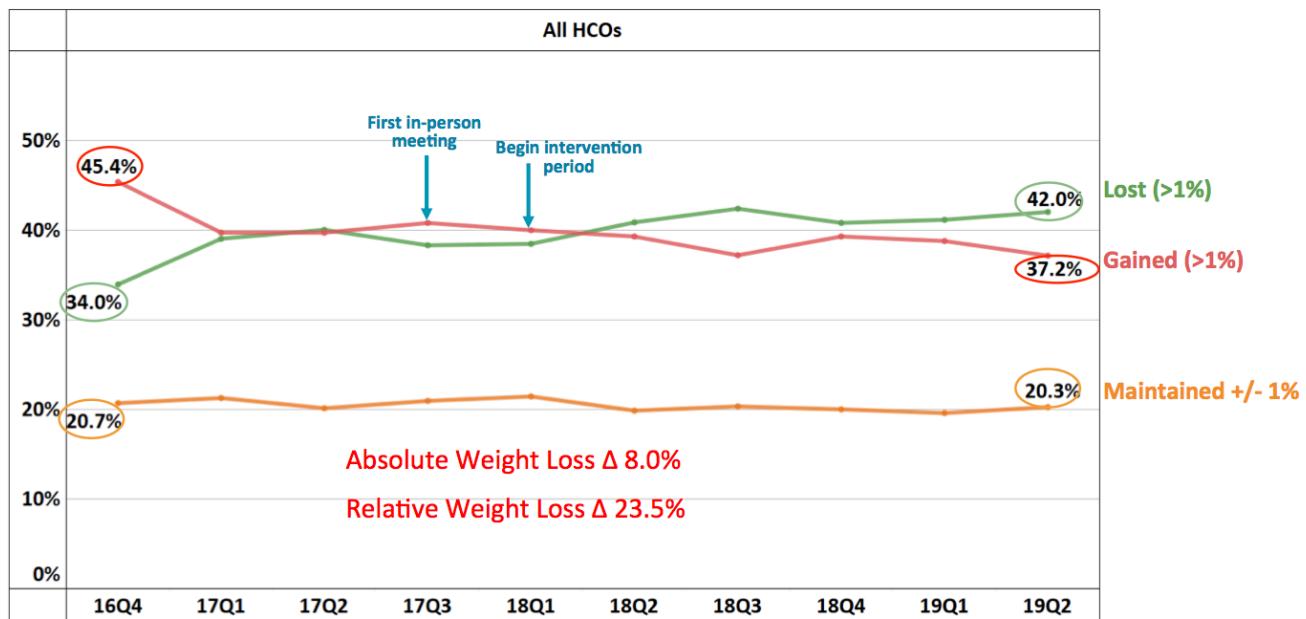
HCO	Pre-Surveys	Post-Surveys	Response Rate	Met Goal Pre	Calculated Δ
9	81	43	64%	Y	Y
5	19	19	24%	N	Y
3	44	7	54%	N	N
8	53	8	60%	Y	N
4	155	NA	73%	Y	N
10	96	NA	98%	Y	N
2	53	NA	100%	Y	N

### Obesity and Weight Loss Quality of Life Instrument

HCO	Pre-Surveys	Post-Surveys	Response Rate	Met Goal Pre	Calculated Δ
9	86	44	68%	Y	Y
5	19	19	24%	N	Y
3	44	7	54%	N	N
4	155	NA	73%	Y	N
10	96	NA	98%	Y	N
2	53	NA	100%	Y	N

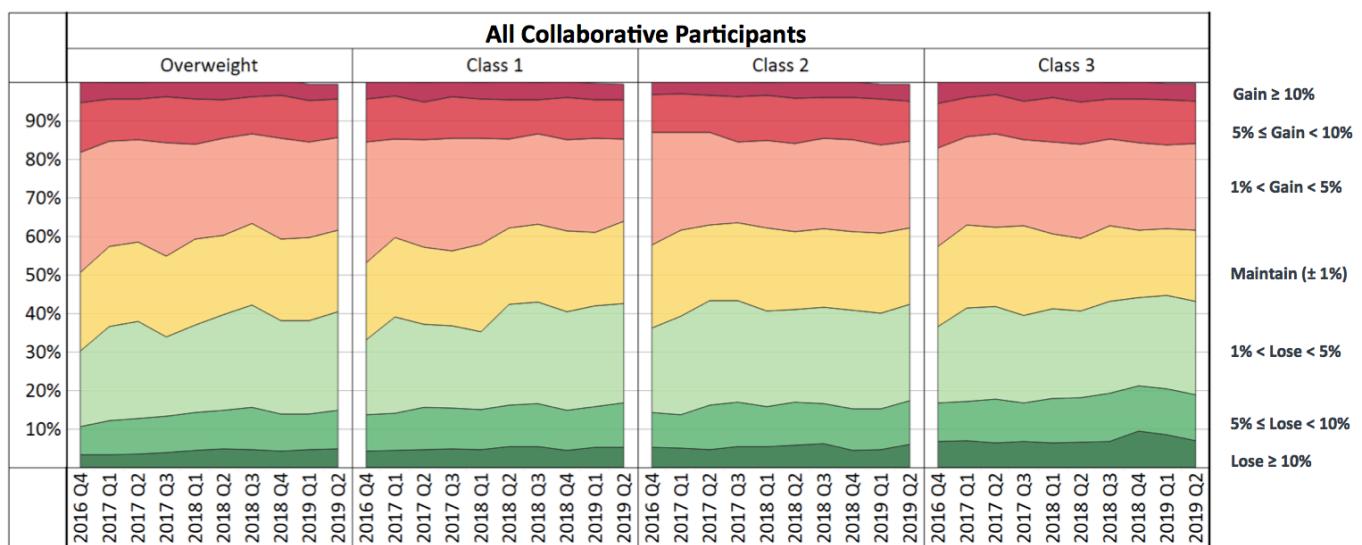
## Appendix

### Proportion of patients (BMI $\geq 25$ ) by weight change category and reporting period



### Measure 6: Proportion of Patients by Percent Weight Change

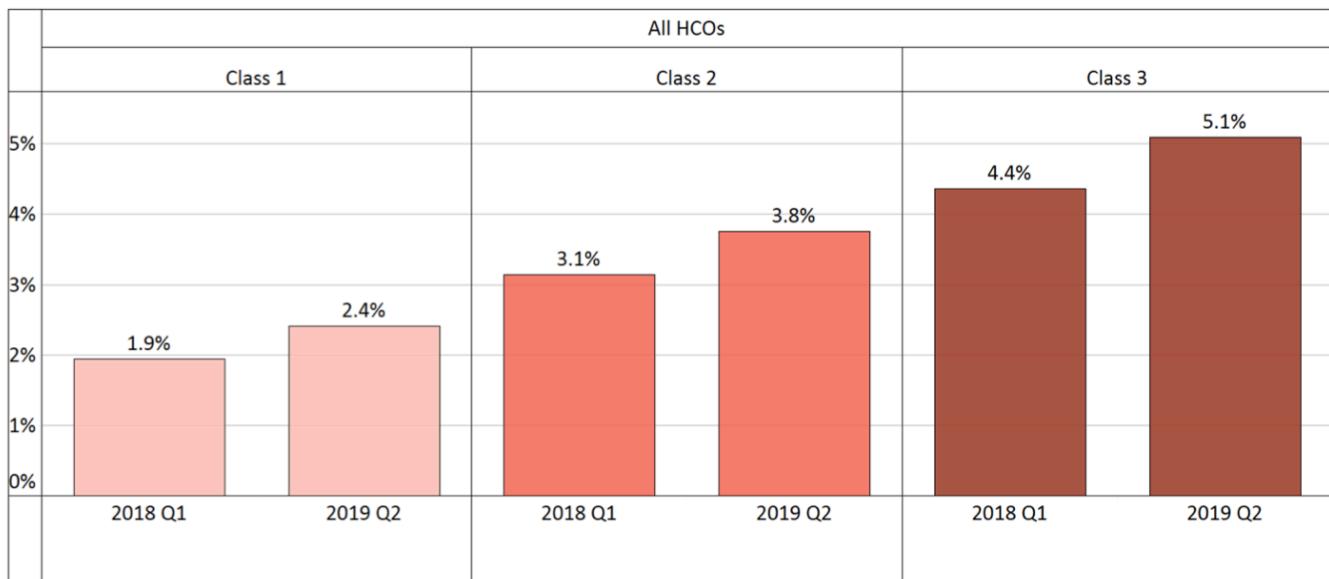
- By reporting period, weight class and 7 weight categories



## Appendix

### Prescribing Anti-Obesity Medications

- Proportion of patients seen during the time period who have an active Rx for an anti-obesity medication
- Patient-weighted average across all organizations



## Project Team

### *Clinical Champions*

**Dr. John Mann** (System)

Surgical Services Physician Service Line Leader

**Dr. Mark Collins** (GCM)

Community Medicine Physician Service Line Leader

### *Administrative Champion*

**Teresa Carter** (System)

Nursing Project Manager

### *Project Manager*

**Gina Gordon** (System)

Bariatric Service Manager

### *Patient Champion*

**Jodi Spargo**

### *Data/IT Analyst*

**Lisa Matthis and Debbie Young**

Senior Healthcare Business Analyst



Advancing High Performance Health

One Prince Street  
Alexandria, VA 22314-3318

[amga.org](http://amga.org)