

Report on a QI Project Eligible for Part IV MOC

Identification of Patients Who Are Obese or Underweight in Pediatric Nephrology Clinics

Instructions

Determine eligibility. Before starting to complete this report, go to the UMHS MOC website [ocpd.med.umich.edu], click on “Part IV Credit Designation,” and review sections 1 and 2. Complete and submit a “QI Project Preliminary Worksheet for Part IV Eligibility.” Staff from the UMHS Part IV MOC Program will review the worksheet with you to explain any adjustments needed to be eligible. (The approved Worksheet provides an outline to complete this report.)

Completing the report. The report documents completion of each phase of the QI project. Final confirmation of Part IV MOC for a project occurs when the full report is submitted and approved.

An option for preliminary review (recommended) is to complete a description of activities through the intervention phase and submit the partially completed report. (Complete at least items 1-16 and 27a-b.) Staff from the UMHS Part IV MOC Program will provide a preliminary review, checking that the information is sufficiently clear, but not overly detailed. This simplifies completion and review of descriptions of remaining activities.

Questions are in bold font and answers should be in regular font (generally immediately below the questions). To check boxes electronically, either put an “X” in front of a box or copy and paste “☒” over the blank box.

For further information and to submit completed applications, contact either:

Grant Greenberg, MD, UMHS Part IV Program Lead, 763-936-1671, ggreenbe@med.umich.edu

R. Van Harrison, PhD, UMHS Part IV Program Co-Lead, 763-1425, rvh@umich.edu

Ellen Patrick, UMHS Part IV Program Administrator, 763-936-9771, ellpat@umich.edu

Report Outline

Section	Items
A. Introduction	1-6. Current date, title, time frame, project leader, specialties/subspecialties involved, funding
B. Plan	7-10. General goal, patient population, IOM quality dimensions addressed, experimental design 11-12. Baseline measures of performance, specific performance objectives 13. Data review and identifying underlying (root) causes
C. Do	14-16. Intervention(s), who is involved, initiated when
D. Check	17-18. Post-intervention performance measurement, data collection, performance level
E. Adjust – Replan	19. Review, continuing/new underlying causes,
F. Redo	20. Second intervention
G. Recheck	21-22. Post-adjustment performance measurement, data collection, performance level
H. Readjust plan	23. Review, continuing/new underlying causes to address
I. Future plans	24-26. Subsequent PDCA cycles, standardize processes, “spread” to other areas
J. Physician involvement	27-30. Physician’s role, requirements, reports, reflections, participation, number
K. Project Organization	31-33. Part of larger initiative, organizational structure, resources, oversight, Part IV opportunity

QI Project Report for Part IV MOC Eligibility

A. Introduction

1. **Date** (*this version of the-report*): 9/1/2015

2. **Title of QI project:** Identification of patients who are obese or underweight in pediatric nephrology clinics

3. **Time frame**
 - a. **Date physicians begin participating (may be in design phase):** 9/18/2014
 - b. **End date:** 8/14/2015

4. **Key individuals**
 - a. **QI project leader** [*also responsible for attesting to the participation of physicians in the project*]
Name: Rebecca Lombel, MD
Title: Physician
Organizational unit: Pediatric Nephrology
Phone number: 734-936-4210
Email address: rlombel@med.umich.edu
Mailing address: 1540 East Hospital Drive, Room 12-250, Ann Arbor, MI 48109-4297

 - a. **Clinical leader to whom the project leader reports regarding the project** [*responsible for overseeing/"sponsoring" the project within the specific clinical setting*]
Name: David Kershaw, MD
Title: Physician / Division Chief
Organizational unit: Pediatric Nephrology
Phone number: 734-936-4210
Email address: dkershaw@med.umich.edu
Mailing address: 1540 East Hospital Drive, Room 12-250, Ann Arbor, MI 48109-4297

5. **Approximately how many physicians were involved in this project categorized by specialty and/or subspecialty?**
Pediatric nephrology: 11 physicians

6. **Will the funding and resources for the project come only from internal UMHS sources?**
 Yes, only internal UMHS sources
 No, funding and/or resources will come in part from sources outside UMHS,
which are: _____

The Multi-Specialty Part IV MOC Program requires that projects engage in change efforts over time, including at least three cycles of data collection with feedback to physicians and review of project results. Some projects may have only three cycles while others, particularly those involving rapid cycle improvement, may have several more cycles. The items below are intended to provide some flexibility in describing project methods. If the items do not allow you to reasonably describe the methods of your specific project, please contact the UMHS Part IV MOC Program office.

B. Plan

7. **General goal**

a. Problem/need. What is the “gap” in quality that resulted in the development of this project? Why is this project being undertaken?

Physicians usually are not documenting the comorbid conditions of obesity or underweight on the problem list (PL) for patients seen in pediatric nephrology clinics. Pediatric patients with BMIs $\geq 95^{\text{th}}$ percentile or $< 5^{\text{th}}$ percentile are at risk for morbidity, longer hospitalization times and higher costs of care. Proper identification and documentation of either obese or underweight status helps to accurately convey the complexity of the patients for which we care. The absence of documentation of these comorbidities may lead providers to not consider relevant issues in developing plans for care of these patients.

b. Physician’s role. What is the physician’s role related to this problem?

Physicians will identify patients who have BMIs $\geq 95^{\text{th}}$ percentile or $< 5^{\text{th}}$ percentile as obese or underweight. Physicians will be responsible for actively documenting this status on the problem list. It is important to include this diagnosis on the problem list to allow for ease of identification of comorbid conditions that can contribute to chronic kidney disease and the complexity of care that is provided. Identifying patients as obese or underweight should prompt discussions with the patients and families to address these issues and identify patients who can benefit from dietician counseling.

c. Project goal. What outcome regarding the problem should result from this project?

The goal of this project is to substantially increase PL documentation of obesity or underweight status in patients with BMI $\geq 95^{\text{th}}$ percentile or $< 5^{\text{th}}$ percentile, respectively. Documentation of this status in the PL of our current electronic medical record system will enhance the robustness of the PL and be helpful for risk adjustment. Identification of patients who are obese or underweight will also enhance our ability to identify and provide counseling. It will benefit the institution as childhood and adult weight/BMI assessment is one of the HEDIS metrics that is used to measure performance of health plans.

8. Patient population. What patient population does this project address.

Pediatric patients (2-17 years of age) who are seen in the pediatric nephrology clinics at C.S. Mott Children’s Hospital and Northville Health Center and who have BMIs $\geq 95^{\text{th}}$ percentile or $< 5^{\text{th}}$ percentile.

9. Which Institute of Medicine Quality Dimensions are addressed? [Check all that apply.]

- | | | |
|---|-------------------------------------|--|
| <input type="checkbox"/> Safety | <input type="checkbox"/> Equity | <input type="checkbox"/> Timeliness |
| <input checked="" type="checkbox"/> Effectiveness | <input type="checkbox"/> Efficiency | <input checked="" type="checkbox"/> Patient-Centeredness |

10. What is the experimental design for the project?

- Pre-post comparisons (baseline period plus two or more follow-up measurement periods)
- Pre-post comparisons with control group
- Other: _____

11. Baseline measures of performance:

a. What measures of quality are used? If rate or %, what are the denominator and numerator?

Denominator: All patients ages 2-17 years seen in pediatric nephrology clinics with BMI $\geq 95^{\text{th}}$ percentile or $< 5^{\text{th}}$ percentile

Numerator: All patients ages 2-17 years with PL documentation of their obese or underweight status

b. Are the measures nationally endorsed? If not, why were they chosen?

The definitions of obesity and underweight status as $\geq 95^{\text{th}}$ percentile or $< 5^{\text{th}}$ percentile for age, respectively, are generally accepted.

c. What is the source of data for the measure (e.g., medical records, billings, patient surveys)?

The source of data is the electronic medical record system (MiChart) with attention to the calculated BMI (based on weight and height) and the PL.

d. What methods were used to collect the data (e.g., abstraction, data analyst)?

Data collection is performed through a report extracted directly from the MiChart Electronic Health Record developed for this project by the Quality Management Program (QMP), a division of the Faculty Group Practice. Addendum 1 at the end of this report lists the diagnosis codes for underweight and overweight that were used to determine whether either type of code was included in a patient’s problem summary list.

e. . For what time period was the sample collected for baseline data?

7/1/2014 through 9/30/2014

12. Specific performance objectives

a. What was the overall performance level(s) at baseline? (E.g., for each measure: number of observations or denominator, numerator, percent. Can display in a data table, bar graph, run chart, or other method. Can show here or refer to attachment with data.)

Time Period	BMI ≥ 95 th %tile		BMI < 5 th %tile		BMI ≥ 95 th or < 5 th %tile	
	N Patients	% w/ PL Doc	N Patients	% w/ PL Doc	N Patients	% w/ PL Doc
Baseline 7/1/14 – 9/30/14	107	46%	25	8%	132	39%

b. Specific aim: What was the target for performance on the measure(s) and the timeframe for achieving the target?

Our goal is to achieve 90% PL documentation of obesity (from baseline of 46%) and of underweight status (from baseline of 8%) by the end of the second cycle of this improvement effort. The amount of needed change is greater for underweight patients (82 percentage point increase) than for overweight patients (44 percentage point increase).

c. How were the performance targets determined, e.g., regional or national benchmarks?

Given the importance of identifying comorbid conditions such as obese or underweight status, the group felt that 90% was an appropriate and attainable target.

13. Data review and identifying underlying (root) causes.

a. Who was involved in reviewing the baseline data, identifying underlying (root) causes of the problem(s), and considering possible interventions (“countermeasures”) to address the causes? Briefly describe:

- **Who was involved?** Pediatric nephrology faculty members and fellow; pediatric nephrology clinical nurses and dieticians.
- **How?** (e.g., in a meeting of clinic staff) Discussion was held at a pediatric nephrology division meeting.
- **When?** 10/10/2014

b. What were the primary underlying/root causes for the problem(s) that the project can address? (Causes may be aspects of people, processes, information infrastructure, equipment, environment, etc. List each primary cause separately. How the intervention(s) address each primary underlying cause will be explained in #14.c.)

1. Providers do not know how to define obesity or underweight status in the pediatric population
2. Providers do not review growth charts and do not identify patients who have ≥ 95th percentile or <

5th percentile

3. Providers identify patients who have BMI \geq 95th percentile or $<$ 5th percentile but do not document status in the PL
 - a. Providers do not recognize the importance of documenting this status
 - b. Providers do not know which PL diagnosis to enter for status
 - c. Providers do not have time to enter status in PL

C. Do

14. Intervention(s).

Describe the interventions implemented as part of the project.

1. Education was provided by the renal dietitians (Jenna Beehler, RD, and Katie Byrnes, RD) regarding the definitions of obesity and underweight status. They also discussed limitations of BMI criteria in the pediatric population (i.e. not used under 24 months).
2. Physicians were requested to add a column on their daily clinic schedule that identifies the BMI for each patient.
3. A table was created to be affixed to computers in the physician work-room in clinic (addendum #2). This served as a visual reminder for definitions and to review BMI for the patients. To standardize the use of PL diagnoses, suggestions are made in the table.
4. As part of the responsibilities of the clinic nurses (Nina Byrnes, RN, and Jane Luebker, RN), in addition to seeing the patients before providers and recording height, weight and concerns, BMI is also documented on the 'cheat sheet' given to providers.

15. Who was involved in carrying out the intervention(s) and what were their roles?

All physicians received education either at the division meeting or in a follow-up email. All physicians are provided the 'cheat sheets' with BMI in clinic by the clinic nurses and work on computers with the posted BMI table. With this training and support, physicians implemented interventions to document obesity and underweight status.

Our renal dietitians – Jenna Beehler, RD, and Katie Byrnes, RD – provided education.

Our clinic nurses – Nina Byrnes, RN, and Jane Luebker, RN – provide ongoing support in clinic with 'cheat sheets' that list BMI.

16. When was the intervention initiated? (For multiple interventions, initiation date for each.)

Intervention 1, 2, and 3 were discussed at a division meeting that was held on 11/28/2014.

In addition, for intervention 3, an email was sent on 12/6/2014; and posted on work station computers on 12/8/2014.

Intervention 4 started on 12/17/2014 when the nurses started documenting BMI on 'cheat' sheets on 12/17/2014.

D. Check

17. Post-intervention performance measurement. Did this data collection follow the same procedures as the initial collection of data described in #11: population, measure(s), and data source(s)?

Yes No – If no, describe how this data collection

18. Performance following the intervention.

a. The collection of the sample of performance data following the intervention occurred for the time period:

12/1/2014 through 2/28/2015

b. **What was post-intervention performance level?** (E.g., for each measure: number of observations or denominator, numerator, percent. Can display in a data table, bar graph, run chart, or other method. Can show here or refer to attachment with data.)

Time Period	BMI ≥ 95 th %tile		BMI < 5 th %tile		BMI ≥ 95 th or < 5 th %tile	
	N Patients	% w/ PL Doc	N Patients	% w/ PL Doc	N Patients	% w/ PL Doc
Baseline 7/1/14 – 9/30/14	107	46%	25	8%	132	39%
Post First Intervention 12/1/14 – 2/28/15	102	63%	13	38%	125	60%

c. **Did the intervention produce the expected improvement toward meeting the project’s specific aim (item 12.b)?**

Performance improved meaningfully, but not quite halfway to the desired goal. The specific aim is an increase in overall performance of approximately 50 percentage points (from 39% to 90%), with performance improving by approximately 20 percentage points. While overweight is more likely to be documented (63%) than underweight (38%), the amount of increase in PL documentation was meaningful for both overweight (17percentage points) and underweight (30 percentage points) patients.

E. Adjust – Replan

19. Review of post-intervention data and identifying continuing/new underlying causes.

a. **Who was involved in reviewing the post-intervention data, identifying underlying (root) causes of the continuing/new problem(s), and considering possible adjustments to interventions (“countermeasures”) to address the causes? Briefly describe:**

- **Who was involved?** Pediatric nephrology faculty members and fellow; pediatric nephrology clinical nurses and dieticians.
- **How?** (e.g., in a meeting of clinic staff) Discussion was held at a pediatric nephrology division meeting.
- **When?** 4/10/2015

b. **What were the primary underlying/root causes for the continuing/new problem(s) that the project can address?** (Causes may be aspects of people, processes, information infrastructure, equipment, environment, etc. List each primary cause separately. How the intervention(s) address each primary underlying cause will be explained in #20.c.)

1. Providers do not consistently review growth charts and do not identify patients who have BMI ≥ 95th percentile or < 5th percentile
2. Providers identify patients who have BMI ≥ 95th percentile or < 5th percentile, but do not document status in the PL
3. The ‘cheat sheets’ provided by the nurses are only seen by the nephrologist if they see the patient without a trainee. If a trainee (resident, fellow) sees the patient, the trainee receives the ‘cheat sheet’ and it is not usually seen by the faculty nephrologist.

F. Redo

20.

Second intervention. What additional interventions/changes were implemented?

1. Ongoing education regarding the importance of documentation of obese or underweight status was reviewed at the division meeting on 4/10/2015.
2. Project leader (Rebecca Lombel) will discuss project with rotating residents each month and review 'cheat sheets.' Residents will be encouraged to update problem summary list. An email was sent out to the April residents on 4/20/2015.
3. Nurses will review BMI on 'cheat sheets' and update the problem summary list with a diagnosis of obesity or underweight status. This intervention began on 4/13/2015.

21. **The second intervention was initiated when?** (For multiple interventions, initiation date for each.)

All interventions were in place on 4/20/2015.

G. Recheck

22. **Post-second intervention performance measurement. Did this data collection follow the same procedures as the initial collection of data described in #11: population, measure(s), and data source(s)?**

Yes No – If no, describe how this data collection

23. **Performance following the second intervention.**

a. **The collection of the sample of performance data following the intervention(s) occurred for the time period:**

5/1/2015 through 6/30/2015

b. **What was the performance level?** (E.g., for each measure: number of observations or denominator, numerator, percent. Can display in a data table, bar graph, run chart, or other method. Can show here or refer to attachment with data.)

Time Period	BMI ≥ 95 th %tile		BMI < 5 th %tile		BMI ≥ 95 th or < 5 th %tile	
	N Patients	% w/ PL Doc	N Patients	% w/ PL Doc	N Patients	% w/ PL Doc
Baseline 7/1/14 – 9/30/14	107	46%	25	8%	132	39%
Post First Intervention 12/1/14 – 2/28/15	102	63%	13	38%	125	60%
Post Second Intervention 5/1/15 - 6/30/15	67	87%	8	50%	75	83%

c. Did the second intervention produce the expected improvement toward meeting the project's specific aim (item 12.b)?

Although the second intervention meaningfully increased overall documentation rates from 60% to 83%, the increase of 23 percentage points was less than the increase of 30 percentage points needed to meet the specific aim of 90%. The 87% rate for documentation of overweight patients almost reached the 90% aim. However, the 50% rate for underweight patients is still appreciably below the aim of 90%.

H. Readjust

24. Review of post-second intervention data and identifying continuing/new underlying causes.

a. Who was involved in reviewing the data, identifying underlying (root) causes of the continuing/new problem(s), and considering additional possible adjustments to interventions ("countermeasures") to address the causes? Briefly describe:

- **Who was involved?** Pediatric nephrology faculty members and fellow; pediatric nephrology clinical nurses and dieticians.
- **How?** (*e.g., in a meeting of clinic staff*) Data was sent via email for review. Discussion was held at a pediatric nephrology division meeting.
- **When?** 8/4/2015 (email); 8/14/2015 (division meeting)

b. What were the primary underlying/root causes for the continuing/new problem(s) that the project can address? (*Causes may be aspects of people, processes, information infrastructure, equipment, environment, etc. List each primary cause separately.*)

1. Providers do not see the 'cheat sheets' prepared by the nurses in clinic
2. Providers identify patients who have BMI \geq 95th percentile or < 5th percentile but do not document status in the PL
3. Providers identify patients who have BMI < 5th percentile but document another status in the PL (i.e. protein-caloric malnutrition)

If no additional cycles of adjustment are to be documented for the project for Part IV credit, go to item #25.

If a few additional cycles of adjustments, data collection, and review are to be documented as part of the project to be documented, document items #20 – #24 for each subsequent cycle. Copy the set of items #20 – #24 and paste them following the last item #24 and provide the information. When the project to be documented for Part IV credit has no additional adjustment cycles, go to item #25.

If several more cycles are included in the project for Part IV credit, contact the UM Part IV MOC Program to determine how the project can be documented most practically.

I. Future Plans

25. How many subsequent PDCA cycles are to occur, but will not be documented as part of the "project" for which Part IV credit is designated?

Since we didn't reach our initial goal of 90%, to reach that level and to help sustain improvement over time, we will perform two additional PDCA cycles

26. How will the project sustain processes to maintain improvements?

The documentation of obesity or underweight status will be part of the division's ongoing QI efforts, and this documentation is now considered part of standard clinical workflow. The department of pediatrics recently created effort allocations for divisional QI leads and this will fall under the responsibility of our QI lead.

Data will be tracked in an ongoing manner with data pulls every three months for at least one year to ensure sustained improvement in documentation rates.

27. Do other parts of the organization(s) face a similar problem? If so, how will the project be conducted so that improvement processes can be communicated to others for "spread" across applicable areas?

Yes, identification and documentation of obesity and underweight status is important for primary and subspecialty care. Documentation of this status in the PL enhances the robustness of the PL and is beneficial for risk adjustment. It will benefit the institution as childhood and adult weight/BMI assessment is one of the HEDIS metrics that is used to measure performance of health plans. This QI project was briefly discussed at the first pediatric department QI team meeting on 6/12/2015 and there was interest from other pediatric subspecialty services to implement similar efforts.

28. What lessons (positive or negative) were learned through the improvement effort that can be used to prevent future failures and mishaps or reinforce a positive result??

As the QI project leader, I (Rebecca Lombel) underestimated the importance of faculty engagement to promote positive change. Providers recognize that obesity and underweight status are comorbid conditions that can adversely affect health but the importance of documenting this status was underappreciated. After our first intervention, the data we received showed that there was not a significant difference in documentation rates (an issue with the data pull which was subsequently addressed), faculty became more engaged to make a change.

We recognized that to strive for and achieve the highest success of projects, it requires involvement of other providers and staff – specifically, learners who see the patients with faculty; mid-level providers and nurses.

As above, there was an issue with the data pulls that were provided by the QMP. This highlighted the importance of verifying the accuracy of the automated data pull.

J. Physician Involvement

Note: To receive Part IV MOC a physician must both:

- a. *Be actively involved in the QI effort, including at a minimum:*
 - *Work with care team members to plan and implement interventions*
 - *Interpret performance data to assess the impact of the interventions*
 - *Make appropriate course corrections in the improvement project*
- b. *Be active in the project for the minimum duration required by the project*

29. Physician's role. What were the minimum requirements for physicians to be actively involved in this QI effort? (What were physicians to do to meet each of the basic requirements listed below? If this project had additional requirements for participation, also list those requirements and what physicians had to do to meet them.)

- a. Interpreting baseline data and planning intervention:
Review baseline data and participate in discussion regarding data interpretation and intervention planning (either by email or at division meeting)
- b. Implementing intervention:
Review BMI for patients and document obesity or underweight status in PL (if physician has clinical responsibilities)
- c. Interpreting post-intervention data and planning changes:

Review post-intervention data and participate in discussion regarding data interpretation and intervention planning (either by email or at division meeting)

- d. Implementing further intervention/adjustments:
Review BMI for patients and document obesity or underweight status in PL (if physician has clinical responsibilities)
- e. Interpreting post-adjustment data and planning changes:
Review post-adjustment data and participate in discussion regarding data interpretation and intervention planning (either by email or at division meeting)

30. How were reflections of individual physicians about the project utilized to improve the overall project?

Physicians reviewed the baseline, post-intervention and post-adjustment data and actively participated in brainstorming for interventions to improve documentation.

31. How did the project ensure meaningful participation by physicians who subsequently request credit for Part IV MOC participation?

Physicians who participated in the data review and discussion were noted. Individual provider data were reviewed.

K. Sharing Results

32. Are you planning to present this QI project and its results in a:

- Yes No Formal report to clinical leaders?
- Yes No Presentation (verbal or poster) at a regional or national meeting?
- Yes No Manuscript for publication?

L. Project Organizational Role and Structure

33. UMHS QI/Part IV MOC oversight – this project occurs within:

- University of Michigan Health System**
 - **Overseen by what UMHS Unit/Group?**
Pediatric Nephrology
 - **Is the activity part of a larger UMHS institutional or departmental initiative?**
 No Yes – the initiative is:
- Veterans Administration Ann Arbor Healthcare System**
 - **Overseen by what AAVA Unit/Group?**
 - **Is the activity part of a larger AAVA institutional or departmental initiative?**
 No Yes – the initiative is:
- An organization affiliated with UMHS to improve clinical care**
 - **The organization is:**
 - **The type of affiliation with UMHS is:**
 Accountable Care Organization type (*specify which*):

BCBSM funded, UMHS lead Collaborative Quality Initiative (*specify which*):

Other (*specify*):

Addendum #1. PSL diagnoses probed by Quallity Management Program.

ID	Name	Code
455952	Obesity peds (BMI >=95 percentile)	278.00, V85.54
493042	Obesity, childhood	278.00
493040	Obesity, pediatric	278.00
458646	Obesity, pediatric, BMI 95 th to 98 th percentile for age	278.00, V85.54
316467	Childhood obesity	278.00
458100	Body mass index >99% for age, obese child, tertiary care intervention	V58.54
458097	Body mass index 95-99% for age, obese child weight manage/multidiscipl	V85.54
458099	BMI (body mass index) pediatric, >99% for age, obese child, tertiary care intervention	V85.54
458098	BMI (body mass index), pediatric 95-99% for age, obese child structured weight management/multidisciplinary intervention	V85.54
322935	BMI (body mass index), pediatric, 95-99% for age	V85.54
322936	BMI (body mass index), >99% for age	V85.54
322938	BMI (body mass index), pediatric, greater than 99% for age	V85.54
308159	BMI (body mass index), pediatric, greater than or equal to 95% for age	V85.54
420875	BMI 95 th percentile or greater with athletic build, pediatric	V85.54
323005	BMI, pediatric >99% for age	V85.54
458638	BMI, pediatric, 99 th percentile or greater for age	V85.54
322939	BMI, pediatric >99% for age	V85.54
455119	Childhood obesity, BMI 95-100 percentile	278.00, V85.54
1066023	Overweight, pediatric, BMI (body mass index) 95-99% for age	278.02, V85.54
322940	Overweight, pediatric, BMI (body mass index) >99% for age	278.02, V85.54
557414	Body mass index (BMI) 95 th percentile or greater with athletic build, pediatric	V85.54
440344	Pediatric BMI of greater than or equal to 95 th percentile for age	V85.54
558865	Overweight child with body mass index (BMI) >99% for age	278.02, V85.54
343189	Overweight child	278.02
343188	Overweight for pediatric patient	278.02
493038	Overweight, pediatric	278.02
493037	Pediatric overweight	278.02
287977	Obese	278.00
242424	Obesity	278.00
433195	Obesity, BMI not known	278.00
439230	Obesity, BMI unknown	278.00
457533	Obesity, mild	278.00
250397	Obesity, morbid	278.01
278.00	Obesity, unspecified	278.00
535286	Mildly obese	278.00
278.01	Morbid obesity	278.01
303568	Morbidly obese	278.01

291457	Severe obesity	278.01
299628	Simple obesity	278.00
V77.8	Screening for obese	V77.8
535293	History of being obese	V13.89
586347	High BMI	V49.89
341984	Increased BMI	783.9
547935	Increased BMI (body mass index)	783.9
433196	Morbid obesity, BMI not known	278.01
457797	Morbid obesity, BMI unknown	278.01
1065428	Overweight	278.02
423621	Overweight for height	278.02
1068036	Overweight or obesity	278.00
299754	Patient overweight	278.02
298048	Severely overweight	278.01
455910	Obesity (BMI 30-39.9)	278.00
525429	Obesity (BMI 30.0-34.9)	278.00
525430	Obesity (BMI 35.0-39.9 without comorbidity)	278.00
1160196	Obesity with body mass index of 30.0-39.9	278.00
423617	Obesity, Class I, BMI 30-34.9	278.00
509168	Obesity, Class I, BMI 30.0-34.9 (see actual BMI)	278.00
423588	Obesity, Class II, BMI 35-39.9	278.00
457801	Obesity, Class II, BMI 35-39.9, isolated	278.00
509167	Obesity, Class II, BMI 35-39.9 isolated (see actual BMI)	278.00
457800	Obesity, Class II, BMI 35-39.9, no comorbidity	278.00
457802	Obesity, Class II, BMI 35-39.9, with comorbidity	278.01
509169	Obesity, Class II, BMI 35.0-39.9, with comorbidity (see actual BMI)	278.01
423537	Obesity, Class III, BMI 40-49.9 (morbid obesity)	278.01
409310	Obesity, morbid (more than 100 lbs over ideal weight or BMI >40)	278.01
1026496	Obesity, morbid, BMI 40-49.9	278.01
1026498	Obesity, morbid, BMI 50 or higher	278.01
300369	BMI 30-30.9, adult	V85.30
300371	BMI 31.0-31.9, adult	V85.31
300373	BMI 32.-32.9, adult	V85.32
300375	BMI 33.0-33.9, adult	V85.33
300461	BMI 34.0-34.9, adult	V85.34
300463	BMI 35.0-35.9, adult	V85.35
300465	BMI 36.0-36.9, adult	V85.36
1067111	BMI 37.0-37.9, adult	V85.37
300472	BMI 38.0-38.9, adult	V85.38
300475	BMI 39.0-39.9, adult	V85.39
419603	BMI 40.0-44.9, adult	V85.41
419604	BMI 45.0-49.9, adult	V85.42
419605	BMI 50.0-59.9, adult	V85.43
419606	BMI 60.0-69.9, adult	V85.44
419607	BMI 70 and over, adult	V85.45
10066051	Adult BMI 30+	V85.30
300370	Adult BMI 30.0-30.9 kg/sq m	V85.30
300372	Adult BMI 31.0-31.9 kg/sq m	V85.31
300374	Adult BMI 32.0-32.9 kg/sq m	V85.32
300376	Adult BMI 33.0-33.9 kg/sq m	V85.33
300462	Adult BMI 34.0-34.9 kg/sq m	V85.34

300464	Adult BMI 35.0-35.9 kg/sq m	V85.35
300466	Adult BMI 36.0-36.9 kg/sq m	V85.36
300471	Adult BMI 37.0-37.9 kg/sq m	V85.37
300473	Adult BMI 38.0-38.9 kg/sq m	V85.38
300476	Adult BMI 39.0-39.9 kg/sq m	V85.39
420060	Adult BMI 40.0-44.9 kg/sq m	V85.41
422061	Adult BMI 45.0-49.9 kg/sq m	V85.42
420062	Adult BMI 50.0-59.9 kg/sq m	V85.43
420063	Adult BMI 60.0-69.9 kg/sq m	V85.44
1066049	Adult BMI >30	V85.30
420064	Adult BMI >= 70 kg/sq m	V85.45
525431	Severe obesity (BMI 35.0-35.9 with comorbidity)	278.01, V85.35
1026425	Severe obesity (BMI 35.0-39.9)	278.01
1026095	Severe obesity (BMI 35.9-39.9) with comorbidity	278.01
455655	Severe obesity (BMI >=40)	278.01
445223	Body mass index (BMI) of 30.0-30.9 in adult	V85.30
445224	Body mass index (BMI) of 31.0-31.9 in adult	V85.31
446997	Body mass index (BMI) of 32.0-32.9 in adult	V85.32
447564	Body mass index (BMI) of 33.0-33.9 in adult	V85.33
446221	Body mass index (BMI) of 34.0-34.9 in adult	V85.34
440077	Body mass index (BMI) of 35.0-35.9 in adult	V85.35
440078	Body mass index (BMI) of 36.0-36.9 in adult	V85.36
440079	Body mass index (BMI) of 37.0-37.9 in adult	V85.37
440080	Body mass index (BMI) of 38.0-38.9 in adult	V85.38
440081	Body mass index (BMI) of 39.0-39.9 in adult	V85.39
445636	Body mass index (BMI) of 40.0-44.9 in adult	V85.41
1159044	Body mass index (BMI) of 40.1-44.9 in adult	V85.41
445429	Body mass index (BMI) of 45.0-49.9 in adult	V85.42
44062	Body mass index (BMI) of 50.0-59.9 in adult	V85.43
44435	Body mass index (BMI) of 60.0-69.9 in adult	V85.44
487502	Body mass index (BMI) of 70 or greater in adult	V85.45
559434	Morbid obesity with BMI of 40.0-44.9, adult	278.01, V85.41
559436	Morbid obesity with BMI of 45.5-49.9, adult	278.01, V85.42
559506	Morbid obesity with BMI of 50.0-59.9, adult	278.01, V85.43
559508	Morbid obesity with BMI of 60.0-69.9, adult	278.01, V85.44
559510	Morbid obesity with BMI of 70 and over, adult	278.01, V85.45

ID	Name	Code
308141	BMI (body mass index), pediatric, less than 5 th percentile for age	V85.51
458644	Low weight, pediatric, BMI less than 5 th percentile for age	V85.51
422085	Body mass index (BMI) pediatric, less than 5 th percentile for age	V85.51
440341	Pediatric body mass index (BMI) of less than 5 th percentile for age	V85.51
V85.51	Body mass index, pediatric, less than 5 th percentile for age	V85.51
783.22	Underweight	783.22
1068125	Underweight due to inadequate caloric intake	783.22
175922	Infant underweight for gestational age	764.00
289926	Patient underweight	783.22
524769	Low weight	783.22

547045	Low weight for height	783.22
519917	Body mass index less than 19	V85.0
V85.0	Body mass index less than 19, adult	V85.0
336749	Adult body mass index less than 19	V85.0
300358	BMI less than 19, adult	V85.1
300354	Adult BMI <19 kg/sq m	V85.0
439437	Body mass index (BMI) of 19 or less in adult	V85.0

Addendum #2. BMI chart posted on work station computers

CDC Descriptor		MiChart Descriptor		
Percentile Ranking	Weight Status	ID	Name	Code
Less than 5 th %ile	Underweight	308141	BMI (body mass index), pediatric, less than 5 th percentile for age	V85.51
		783.22	Underweight	783.22
5 th %ile to less than 85 th %ile	Healthy weight			
85 th %ile to less than 95 th %ile	Overweight	308160	BMI (body mass index), pediatric 85% to less than 95% for age	V85.53
		1065428	Overweight	278.02
Equal to or greater than 95 th %ile	Obese	322935	BMI (body mass index), pediatric, 95-99% for age	V85.54
		322936	BMI (body mass index), >99% for age	V85.54
		322938	BMI (body mass index), pediatric, greater than 99% for age	V85.54
		308159	BMI (body mass index), pediatric, greater than or equal to 95% for age	V85.54
		287977	Obese	278.00
		242424	Obesity	278.00