

Carolina Kids Pediatric Associates

Summary of Quality Improvement Measures: 2020-21

Measure 1 – Patient Access: Patient Access via Telemedicine

Reason: The CoVID-19 pandemic created new barriers for patients seeking medical care. These barriers included increased risk of disease transmission in the office setting, as well as new constraints posed by parents working from home and students learning remotely.

Numerator: Telemedicine patient encounters completed during the measurement period.

Denominator: All patient encounters completed during the measurement period.

Methodology: Data was pulled using the “PCMH 2017 AC Concepts” report within the Office Practicum Quality Improvement Calculator, Measure Group AC06. Reports were pulled for one month time periods.

Baseline Start Date: 3/1/2020 **Baseline End Date:** 3/31/2020

Baseline Performance Measurement (n/d* and %): 16/856 = 1.9%

Data Stratified by Provider:

Dr. Nechyba	7/191 = 3.7%
Dr. Tanaka	4/171 = 2.3%
Dr. Willey	3/150 = 2%
Dr. Emmet	1/173 = 0.6%
Dr. Helton	1/171 = 0.6%

Numeric Goal (%): 3%

Action after Baseline Period: Given the emergence of CoVID-19 and patient concerns about clinic exposures, office physicians and managers met and agreed to open our telemedicine platform to any office visit for which standards of care could be met without in-person physical examination or laboratory evaluation.

Date Action Initiated: 6/10/2020 (prior to Remeasurement Period #1)

Additional Actions: Practice parameters for types of visits which could be completed via telemedicine were drafted and agreed to. A specific, written protocol for types of visits for which telemedicine could be offered as an option was reviewed with all staff via office huddles. Office workflow for triaging and scheduling telemedicine appointments was reviewed in office huddles with administrative and nursing staff.

Remeasurement Period #1:

Start Date: 9/1/2020

End Date: 9/30/2020

Performance Remeasurement (n/d* and %): 25/889 = 2.8%

Data Stratified by Provider:

Dr. Nechyba	13/184 = 7.1%
Dr. Tanaka	2/178 = 1.1%
Dr. Willey	6/192 = 3.1%
Dr. Emmet	1/179 = 0.6%
Dr. Helton	3/156 = 1.9%

Numeric Goal (%): 3%

Action after Remeasurement Period #1: In order to more widely communicate availability of telemedicine visits to our entire patient population, new links to educational materials regarding our telemedicine platform and examples of types of visits which could be conducted via telemedicine were directly integrated into our practice website.

Date Action Initiated: 11/11/2020 (prior to Remeasurement Period #2)

Remeasurement Period #2:

Start Date: 1/1/2021

End Date: 1/31/2021

Performance Remeasurement (n/d* and %): 23/724 = 3.2%

Data Stratified by Provider:

Dr. Nechyba	10/190 = 5.3%
Dr. Tanaka	2/147 = 1.4%
Dr. Willey	5/114 = 4.4%
Dr. Emmet	2/141 = 1.4%
Dr. Helton	4/132 = 3.0%

Assessment of Actions & Improvement:

The initial performance goal of 3% was not met after Remeasurement Period #1, but was met after Remeasurement Period #2. Interventions taken after the baseline period to increase the types of encounters for which telemedicine would be provided as an option was effective in improving performance. Additional interventions after the first remeasurement period to more broadly educate patients on telemedicine options and decrease technical barriers to telemedicine were also effective in improving performance.

Measure 2 - Immunizations: Meningococcal B Vaccine Completion

Reason: Unlike meningococcal conjugate vaccine, the CDC's ACIP does not recommend additional type B meningococcal vaccine universally for all adolescents. Instead, it recommends a process of shared medical decision making, which recognizes that although type B meningococcal meningitis is rare, it represents a higher risk to certain adolescents who will live in high-risk, crowded conditions, or in those with certain immune compromising conditions. Completion of the brand of type B meningitis vaccine used by our practice (Bexsero) requires two doses separated by at least 1 month. Adolescents historically have a higher risk of not returning for vaccine follow up visits due to school and extracurricular obligations, or because they may move away from home to attend college, enlist in the military, etc. At baseline, only 48% of patients who initiated type B meningitis vaccine completed the 2-dose series within a month of their booster dose becoming due. This made meningococcal type B vaccine completion an excellent target for quality improvement. Numerator: Qualifying patients who completed the meningococcal type B vaccine series within one month of their booster dose becoming due.

Numerator: Qualifying patients who completed the meningococcal type B vaccine series within one month of their booster dose becoming due.

Denominator: All patients who initiated the meningococcal type B vaccine during the measurement period.

Methodology: A report for all meningococcal type B vaccines given during each measurement period was pulled monthly using the "Vaccines Given" feature within the "Demographic Analysis & Recall" function of the Office Practicum Quality Improvement Calculator. A manual chart review was then conducted for all vaccines given to determine the complete meningococcal type B record for each patient. This chart review was utilized to calculate the numerator and denominator, and to create monthly patient recall lists. Baseline and remeasurement periods were for two month intervals.

Baseline Period:

Baseline Start Date: 7/1/2020

Baseline End Date: 8/31/2020

Baseline Performance Measurement (n/d* and %): 26/54 = 48%

Stratified by Provider:

Dr. Nechyba:	12/18 = 67%
Dr. Tanaka:	4/14 = 29%
Dr. Willey:	5/9 = 56%
Dr. Emmet:	3/9 = 33%
Dr. Helton:	2/4 = 50%

Numeric Goal (%): 75%

Action: A record was pulled monthly from our electronic medical record to determine which patients who initiated the meningococcal B vaccine series scheduled a follow up

appointment for the booster dose within the 1-month period following the date for which the booster dose became due. A follow up phone call was made to all patients who did not schedule a follow up vaccine dose within that time frame to schedule a follow up appointment. Phone calls were also made to patients who made a follow up appointment but missed that appointment.

Date Action Initiated: 11/11/2020

Additional Actions: A red sticker was placed on the check-out billing sheet of every patient who received a first dose of meningococcal B vaccine to alert the administrative staff to schedule a visit for a second vaccine dose when the patient checked out after their visit. A review of these interventions was completed during huddles with both administrative and nursing staff.

Remeasurement Period:

Start Date: 11/15/2020 ***End Date:*** 1/14/2021

Performance Re-Measurement (n/d* and %): 12/15 = 80%

Stratified by Provider:

Dr. Nechyba:	5/6 = 83%
Dr. Tanaka:	3/5 = 60%
Dr. Willey:	1/1 = 100%
Dr. Emmet:	0/0 = N/A
Dr. Helton:	3/3 = 100%

Assessment of Actions & Improvement:

Timely completion rate improved from the baseline measurement of 48% to 80% during the remeasurement period. The performance goal of 75% was exceeded. Total number of vaccines initiated (the denominator) was greater during the baseline period because many more adolescents come for preventive care visits during summer when school is out than during winter. However, it can be historically more difficult to schedule return visits for vaccine completion during fall and winter when students are busy with school. Despite this, vaccine completion rates improved significantly during the winter remeasurement period. Alerting the administrative staff to the need for a follow up vaccine appointment with a special sticker on the checkout sheet at the time of service, and personal follow up phone calls were effective interventions in insuring timely completion of this vaccine series. However, it will be necessary to determine if this improved rates of vaccine completion can also be maintained during the busier summer season.

Measure 3 - Preventive Care Measure: Cholesterol Screening

Reason: The NIH recommends initial total and HDL cholesterol screening in all patients before their 12th birthday in order to facilitate early identification and treatment of this significant cardiac risk factor, and follow up for a full fasting lipid profile for patients with abnormal screening results (screening non-HDL cholesterol > 145 or HDL < 40). During

the baseline period, only 73% of patients had screening and follow up performed which conformed to these guidelines.

Numerator: All patients between 11 and 12 who were seen for a well visit during the measurement period and had cholesterol screening documented which conformed to these guidelines AND had a follow up visit documented for a full fasting lipid profile for a screening non-HDL cholesterol > 145 or HDL < 40.

Denominator: All patients between 11 and 12 who were seen for a well visit during the measurement period.

Methodology: For each measurement period, a list of all patients between 11th and 12th birthday who were seen for a well child (preventive care) visit was pulled from our EMR. A manual chart review was then conducted to determine which patients met the performance measure as described. Measurement periods were one month long.

Baseline Period:

Baseline Start Date: 6/16/2020 ***Baseline End Date:*** 7/15/2020

Baseline Performance Measurement (n/d* and %): 22/30 = 73%

Numeric Goal (%): 85%

Action after Baseline Period: Current NIH cholesterol screening guidelines were reviewed in a meeting with all physician providers.

Date Action Initiated: 8/12/2020 (prior to Remeasurement Period #1)

Remeasurement Period #1:

Start Date: 10/1/2020 ***End Date:*** 10/31/2020

Performance for Remeasurement Period #1 (n/d* and %): 45/56 = 80%

Actions after Remeasurement Period #1 : During daily morning nurse huddles, all patients who were to be seen for 11 year well visits were highlighted on the daily schedule, and these patients were flagged for cholesterol screening on the schedule distributed to each provider for that day. Simplified AAP patient handout to review hypercholesterolemia diagnosis and treatment to simplify conversation on high cholesterol values with patients & families and encourage follow up testing was reviewed with providers.

Date Action Initiated: 11/11/2020 (prior to Remeasurement Period #2)

Numeric Goal (%): 85%

Remeasurement Period #2:

Start Date: 12/15/2020

End Date: 1/14/2021

Performance for Remeasurement Period #1 (n/d* and %): 26/29 = 90%

Assessment of Actions & Improvement:

After guidelines were reviewed with providers, performance improved from 73% during the baseline period to 80% during remeasurement period #1, which did not meet the performance goal of 85%. Flagging patients who needed screening during daily nurse

huddles and providing a simplified communication tool for discussing abnormal cholesterol screening with patients further improved performance from 80% to 90% during the second remeasurement period, which did meet the performance goal.

Measure 4 - Chronic Care/Communication: Asthma Action Plans in Persistent Asthma

Reason: The Centers for Disease Control recommends that all patients with persistent asthma have a personalized, written asthma action plan completed by their physician. A written, personalized asthma action plan increases the chance that patients will be able to manage their own asthma exacerbations, maintain effective asthma control, and decrease ER, urgent care, and hospitalization use for asthma care. The measure was targeted for quality improvement because, during the baseline period, 57% of patients in our practice with a diagnosis of persistent asthma had a written asthma plan documented in the EMR and visible on the patient portal within the past year.

Numerator: Qualifying patients who have a current documented asthma action plan which has been communicated to patient within the past year during an office visit or on the patient portal.

Denominator: All patients with persistent asthma seen for a well visit or an asthma follow up visit during the measurement period.

Methodology: The “Pediatric CQMs, 2014”, Measure Group CMS126-0036 function of the Office Practicum Quality Improvement Calculator was used to obtain lists of patients diagnosed with persistent asthma who had been seen for a well visit or asthma follow up visit for each measurement period. Manual chart review was performed to determine which of these patients had a current documented asthma action plan which had been communicated within the prior year during an office visit or on the patient portal. Measurement periods were two months long.

Baseline Period:

Baseline Start Date: 6/15/2020 **Baseline End Date:** 8/14/2020

Baseline Performance Measurement (n/d* and %): 20/35 = 57%

Numeric Goal (%): 75%

Action: The practice’s asthma chronic care coordinator performed chart reviews on all patients in the practice diagnosed with persistent asthma and identified patients who did not have an up to date asthma action plan on file. The care coordinator then communicated with each patient’s provider to determine whether a written asthma plan could be posted on the patient portal based on the most recent asthma follow up visit, and also to determine if the patient was due for a well visit or asthma follow up visit. An up to date written asthma plan was then either posted on the patient portal and

communicated to the family by the care coordinator, or an asthma follow up visit or well visit was scheduled by the care coordinator.

Date Action Initiated: 8/19/2020

Additional Actions: The asthma care coordinator also facilitated communication of written asthma plans to a patient's school or daycare center as needed.

Remeasurement Period:

Start Date: 9/1/2020 ***End Date:*** 10/31/2020

Performance Remeasurement (n/d* and %): 20/27 = 74%

Assessment of Actions & Improvement:

Performance improved from 57% during the baseline period to 74% during the remeasurement period. This almost met the performance goal of 75%. Care coordinator involvement in updating and communicating asthma action plans was an effective intervention, but there is room for continued quality improvement on this measure.

Measure 5 - Acute Care Measure: On-site CoVID-19 Testing of Sick Patients During CoVID-19 Pandemic

Reason: The CDC recommended testing for CoVID-19 in sick patients with a broad range of symptoms during the CoVID-19 pandemic as a key strategy for identifying and quarantining infected patients, contact tracing, and slowing the spread of CoVID-19 (Source: <https://www.cdc.gov/coronavirus/2019-ncov/testing/diagnostic-testing.html#who-should-get-tested>). Potential symptoms of CoVID-19 include fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, diarrhea if these symptoms are not consistent with an alternate diagnosis or chronic disease process.

Numerator: Patients seen for sick visit during the measurement period who

- (1) Had one or more of the symptoms defined at the time by CDC as potential symptoms of CoVID-19
- (2) Had a CoVID-19 genetic (PCR/NAA) or antigen test performed at the time of the visit

Denominator: All patients seen during the measurement period for a sick visit who had one or more of the symptoms defined at the time by CDC as potential symptoms of CoVID-19.

Methodology: Manual chart reviews were conducted for each sick patient visit for each 15 day period to determine patient symptoms and presence or absence of testing for CoVID-19 during the visit.

Baseline Period:

Baseline Start Date: 6/15/2020 ***Baseline End Date:*** 6/30/2020

Baseline Performance Measurement (n/d* and %): 40/60 = 67%

Numeric Goal (%): 75%

Action after Baseline Measurement Period: All medical records from patients who were sick but were not screened for CoVID-19 during the baseline period were reviewed in a meeting of all practice providers. Two identified reasons for non-screening of patients was diagnosis of bacterial respiratory infection during the visit and patient hesitancy about testing. It was agreed that most patients with specific bacterial respiratory infections (including pneumonia, otitis media, and sinusitis) should also be screened for CoVID-19 during the pandemic (since CoVID-19 and bacterial infection could be comorbid in the same patient), and that patients should be educated about specific reasons for testing even if they were initially hesitant during the visit. Reasons for testing to be discussed with patients included timely quarantine and slowing the spread of infection in school, daycare, or to vulnerable family members.

Date Action Initiated: 8/12/2020 (prior to Remeasurement Period #1)

Additional Actions: Standardized public health handouts to summarize “steps after testing” were agreed upon to simplify patient communication about CoVID-19 testing. Due to slow turnaround times of test results, a new testing partnership was established with a second, hospital-based lab to allow for 24-hour turnaround on test results to minimize daycare, school, and work exclusion of patients who test negative.

Remeasurement Period #1:

Start Date: 10/15/2020

End Date: 10/30/2020

Performance Remeasurement (n/d* and %): 78/111 = 70%

Numeric Goal (%): 75%

Action after Remeasurement Period #1: Rapid molecular testing on-site was launched to allow for 15-minute initial test results.

Date Action Initiated: 12/30/2020 (prior to Remeasurement Period #2)

Additional Actions: Indications for rapid molecular testing were reviewed in huddles with providers and nursing staff, and were also posted on the practice website. Informational handouts regarding rapid testing were made available to patients at the time of the visit.

Remeasurement Period #2:

Start Date: 1/1/2021 **End Date:** 1/16/2021

Performance Remeasurement (n/d* and %): 63/74 = 85%

Assessment of Actions & Improvement:

Performance improved from 67% during the baseline period to 70% during remeasurement period #1, which did not meet the performance goal of 75%. Performance improved further to 85% during remeasurement period #2, which met the performance goal. Individual chart reviews, standardized public health patient communication materials, and pursuit of resources to support more rapid testing results were effective in improving CoVID-19 testing compliance.

Measure 6 - Measure Affecting Health Care Costs: Cost Effective Screening for Anemia

Reason: Evidence suggests that transcutaneous, noninvasive hemoglobin is an accurate, inexpensive method for screening for anemia. It is less expensive and less invasive than a traditional complete blood count, and thus represents a cost saving alternative to screen for anemia. Screening for anemia is important in adolescent females after the onset of menses, since they are at increased risk of iron deficiency.

Numerator: All adolescent female patients 13 years or older who had a less expensive transcutaneous hemoglobin screen for anemia performed during the measurement period.

Denominator: All adolescent females 13 years or older who had either a complete blood count (more expensive) or transcutaneous hemoglobin (less expensive) screen for anemia performed during the measurement period.

Methodology: A list of all adolescent females 13 years or older who were seen for a well visit during each one month measurement period was pulled from our EMR. A manual chart review was then conducted to determine which patients had a transcutaneous hemoglobin and which patients had a complete blood count used to screen for anemia.

Baseline Period:

Baseline Start Date: 6/15/2020 **Baseline End Date:** 7/14/2020

Baseline Performance Measurement (n/d* and %): 5/68 = 7%

Numeric Goal (%): 50%

Action: American Academy of Pediatrics *Bright Futures* guidelines for anemia screening in adolescent females were reviewed with providers and staff. Relative cost of a capillary complete blood count (\$28) vs. a transcutaneous hemoglobin (\$2) were reviewed with providers also.

Date Action Initiated: 7/22/2020

Additional Actions: Transition to transcutaneous hemoglobin screening and anticipated cost savings were reviewed during nurse huddles. Specific clinical barriers to transcutaneous screening (cool patient hands, nail polish, etc., interfering with sensor probe) were reviewed and strategies for successful screening in these situations was reviewed (nail polish remover was procured, warm packs were procured for use if patient hands were too cool for sensor to pick up reading).

Remeasurement Period:

Start Date: 8/1/2020 **End Date:** 8/31/2020

Performance Remeasurement (n/d* and %): 53/57 = 93%

Assessment of Actions & Improvement:

The practice successfully transitioned to a more cost effective methodology of screening for anemia in adolescent females, with performance improving from 7% to 93%, exceeding the performance goal. Provider education on the cost effectiveness and reliability of transcutaneous hemoglobin screening and addressing potential technical barriers to transcutaneous hemoglobin screening were effective interventions. The practice will next target frequency of screening as an additional cost-saving measure, with a goal of incorporating more risk-based screening for targeted age groups, and performing universal screening only every few years instead of annually (as recommended by AAP guidelines) during adolescence.

Measure 7 - Disparity in Patient Experience: Specialist Referral Follow up

Vulnerable population:

Patients with lower socio-economic status as measured by insurance type (Medicaid and Uninsured)

Disparity:

Referral completion and reconciliation within 3 months of referral date

Describe a comparison of a vulnerable population against the general population in which the vulnerable population patient experience was measured at a lower performance:

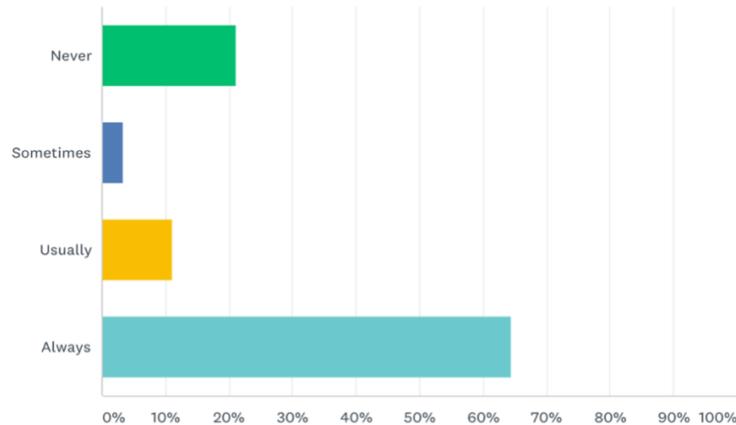
The practice maintains an active, comprehensive survey to obtain continuous feedback on patient experience. This survey is available on our practice website (direct link to practice survey: <https://www.surveymonkey.com/r/SJSSC3G>). Questions 18 & 19 on this survey ask if families believe that their provider was informed and up to date about care that patient received from specialists to whom the patient was referred. As of 6/1/2020, 64% of families responded that their provider was “always” up to date on specialist care.

Q19

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In the last 12 months, how often did your provider seem informed and up to date about the care your child got from specialists?

Answered: 90 Skipped: 64



When reviewing patient data on how often an outcome of a patient referral was documented in the medical record within 3 months of the initial referral date, a disparity of care was noted. Patients with public insurance (i.e., Medicaid) or no insurance only met this measure 60% of the time, but patients in the general population met this measure 76% of the time, a disparity of 16%.

Numerator: Qualifying patients for whom the outcome of a referral was documented in the medical record within 90 days of the initial referral date.

Denominator: All patients for whom a referral was made and the date on which 90 days had elapsed since the initial referral date fell during the measurement period.

Methodology: The “PCMH 2017 CC Concepts” report entitled “Referral responses before flag date” was pulled from the Office Practicum Quality Improvement Calculator for each two month measurement period. Patient lists who met and did not meet the measure from this report were then reviewed to determine patients who were in the vulnerable population and patients who were not. Patients with Medicaid insurance or no insurance at the time of referral were included in the vulnerable population group.

Baseline Period:

Baseline Start Date: 6/15/2020 **Baseline End Date:** 8/14/2020

Baseline Performance Measurement for Vulnerable Population (n/d* and %): 3/5 = 60%

Baseline Performance Measurement for General Population (n/d* and %): 31/41 = 76%

Numeric Goal (%): 85%

Action: Lists of all outstanding patient referrals for each provider were reviewed at quality improvement meeting on the date listed below, and at subsequent quarterly quality improvement meetings. Providers were asked to reach out to all patients for whom more than 60 days had elapsed since a referral date to determine if the specialist visit was completed. If so, the specialist was contacted to obtain records of the specialty visit. If not, barriers to referral were reviewed with the patient. For patients in the vulnerable population group, at least 3 attempts were made to contact the family by phone, text message, or portal e-mail to establish outcome of the referral. For patients in the general population, at least 1 attempt was made to contact the family by phone.

Date Action Initiated: 8/19/2020

Additional Actions: The practice will attempt to recruit a new part-time care coordinator in the first half of 2021 to explore new strategies for improving care coordination with specialists. However, this intervention will occur after the remeasurement period listed.

Remeasurement Period:

Start Date: 9/1/2020 **End Date:** 10/31/2020

Performance Re-Measurement for Vulnerable Population (n/d* and %): 12/16 = 75%

Performance Re-Measurement for General Population (n/d* and %): 61/71 = 86%

Assessment of Actions & Improvement:

Performance in the vulnerable group improved from 60% during the baseline period to 75% during the remeasurement period, and performance in the general population group improved from 76% during the baseline period to 86% during the remeasurement period. Disparity decreased from 16% during the baseline period to 11% during the remeasurement period, which is a significant improvement, but performance goal of 85% in the vulnerable group was not met. Monthly provider review of open referral lists combined with repeated and flexible outreach to obtain follow up information and review barriers to care for patients in the vulnerable population was modestly effective in improving performance. However, we hope that addition of dedicated care coordinator time to these tasks and more frequent (monthly instead of quarterly) provider review will help provide further improvements in this disparity.

Measure 8 – Preventive Care Disparity: Cholesterol Screening

Vulnerable population: Non-Caucasian minority populations

Disparity: Appropriate completion of cholesterol screening

Describe a comparison of a vulnerable population against the general population in which the vulnerable population received clinical care at a lower performance:

Cardiovascular disease resulting from hypercholesterolemia is more prevalent among non-Caucasian minority populations, including African American and Hispanic populations. During the first remeasurement cycle of Measure #3 (Cholesterol Screening), a disparity between Caucasian and non-Caucasian populations was noted. Since hypercholesterolemia represents a more significant disease burden in minority populations, this disparity was targeted for quality improvement.

Numerator: All patients between 11 and 12 who were seen for a well visit during the measurement period and had cholesterol screening documented which conformed to these guidelines AND had a follow up visit documented for a full fasting lipid profile for a screening non-HDL cholesterol > 145 or HDL < 40.

Denominator: All patients between 11 and 12 who were seen for a well visit during the measurement period.

Methodology: For each measurement period, a list of all patients between 11th and 12th birthday who were seen for a well child (preventive care) visit was pulled from our EMR. A manual chart review was then conducted to determine which patients met the performance measure as described. Measurement periods were one month long. Numerator and denominator were stratified into Caucasian (general) and non-Caucasian (vulnerable) populations.

Baseline Period:

Baseline Start Date: 10/1/2020 ***Baseline End Date:*** 10/31/2020

Baseline Performance Measurement for Vulnerable Population (n/d* and %): 10/15 = 67%

Baseline Performance Measurement for General Population (n/d* and %): 45/56 = 80%

Numeric Goal (%): 85%

Action: Racial and ethnic disparities in cholesterol risk and cardiovascular disease outcomes were discussed at a provider meeting. Lists of patients age 11-12 in the vulnerable group who had well visits were pulled weekly. Then, outreach was conducted by phone for all patients in the vulnerable population for whom appropriate screening was not documented in the well visit note, or for whom follow-up was not scheduled after abnormal screening. This follow up was conducted within two weeks of office visit, and was attempted at least twice. Patients were then scheduled for appropriate initial or follow up cholesterol screening.

Date Action Initiated: 11/11/2020

Remeasurement Period:

Start Date: 12/15/2020 ***End Date:*** 1/14/2021

Performance Re-Measurement for Vulnerable Population(n/d* and %): 16/18 = 89%

Performance Re-Measurement for General Population (n/d* and %): 26/29 = 90%

Assessment of Actions & Improvement:

Performance improved in both the vulnerable and the general population, but performance improved more significantly in the vulnerable population. A disparity of 13% (67% vs. 80%) between the vulnerable and general population groups decreased to 1% (89% vs. 90%) during the remeasurement group, and the performance goal of 85% was met. Phone follow up was effective in eliminating the disparity in cholesterol screening in the vulnerable population.

Measure 9 - Behavioral Health Measure: Post-partum Depression Screening

Reason: The American Academy of Pediatrics recommends integrating postpartum depression surveillance and screening at 1, 2, 4 and 6 month infant well visits. Post-partum mood disorders have a significant impact on a parent's ability to provide care for an infant, and must be screened in the pediatric setting since parents have significantly more in-person contact with their pediatrician than with any other health care provider during the postpartum period. Baseline performance on this measure was 47.5%. This measure was thus targeted for quality improvement.

Numerator: All children who turned 6 months of age during the measurement period who had a standardized, validated maternal depression screening performed for the child's mother at least once in the first 6 months of life.

Denominator: Children who turned 6 months of age during the measurement period.

Methodology: The "Alternate CQMs", measure group CMS 82 report was used from the Office Practicum Quality Improvement Calculator for each one month reporting period. Reports were also stratified by individual providers.

Baseline Period:

Baseline Start Date: 7/1/2020 **Baseline End Date:** 7/31/2020

Baseline Performance Measurement (n/d* and %): 75/158 = 47.5%

Numeric Goal (%): 75%

After Baseline Period:

Action: An office workflow was established so that the Edinburgh Postnatal Depression Scale, a validated screen for post-partum depression, could be completed once the family had arrived for their well visit, but before their visit with the provider. Previously, office workflow relied on providers to remember to complete this screen with families during or at the end of their visit, and families often left the office prior to the completion or review of the screen. This new workflow was reviewed in administrative and nursing huddles.

Date Action Initiated: 8/12/2020 (prior to Remeasurement Period #1)

Additional Actions: Academy of Pediatrics guidelines for postpartum depression surveillance (reference listed above) were reviewed in detail in a meeting with all providers and nurse and administrative management team.

Remeasurement Period #1:

Start Date: 10/1/2020

End Date: 10/31/2020

Performance Remeasurement (n/d* and %): 132/154 = 85.7%

Numeric Goal (%): 90%

After Remeasurement Period #1:

Action: The Edinburgh Postnatal Depression Scale was attached as a link on the patient portal for all well visits from 1 month to 6 months of age. This would permit families to complete the scale prior to their well visit, and allow for pre-visit review of this screening tool by the provider.

Date Action Initiated: 1/13/2021 (Prior to Remeasurement Period #2)

Additional Actions: A packet of information about postnatal depression, community resources including parent support groups, and a list of providers who treated parents with postnatal depression were made readily available at the nursing station for families who screened positive for postnatal parental depression.

Remeasurement Period #2:

Start Date: 1/15/2021

End Date: 2/14/2021

Performance Remeasurement (n/d* and %): 115/130 = 88.5%

Assessment of Actions & Improvement:

Performance improved from a baseline of 47.5% to 85.7% during Remeasurement Period #1, which exceeded the quality improvement goal of 75%. Performance improved slightly from 85.7% in Remeasurement Period #1 to 88.5% in Remeasurement Period #2, which did not quite meet the numeric goal of 90% for the second remeasurement period. Insuring that office workflow required completion of the screen prior to the provider encounter in the office was very effective after the baseline period, but linking the screen to the patient portal was less effective in achieving additional improvement after Remeasurement Period #1. Of note, the practice upgraded to a new patient portal interface in December 2020, requiring patients to re-register for a new portal account. This likely decreased the number of families who benefited from the link of the postnatal depression scale to the parent portal for completion in early 2021, but may have additional impact as parents become accustomed to the new portal interface.

Measure 10 - Behavioral Health Measure: Screening for Autism in Toddlers

Reason: The American Academy of Pediatrics recommends screening all toddlers with autism-specific screening tests at about 18 and 24 months with well exams because children with autistic spectrum disorder can be identified as toddlers and early intervention services which improve outcomes can be initiated. **Source:** Hyman, SL, et al *Identification, Evaluation, and Management of Children with Autism Spectrum Disorder*. Pediatrics January 2020, 145(1) e20193447.

Numerator: All patients between 18 months and 2 years of age who had a well visit during the measurement period and had an M-CHAT R autism screen performed and documented for the visit.

Denominator: All patients between 18 months and 2 years of age who had a well visit during the measurement period.

Methodology: A list of all patients who were in the defined age group and had a well visit during the measurement period was pulled from the EMR monthly and charts were manually reviewed to determine completion of appropriate screening. Measurement was for one month periods.

Baseline Period:

Baseline Start Date: 7/1/2020 ***Baseline End Date:*** 7/31/2020

Baseline Performance Measurement (n/d* and %): 45/55 = 82%

Numeric Goal (%): 90%

Stratified Data by Provider: (Baseline Period)

Dr. Jeff Tanaka:	8/12	=	67%
Dr. Leanna Willey:	7/8	=	88%
Dr. Christian Nechyba:	7/7	=	100%
Dr. Mari Emmet:	16/16	=	100%
Dr. Mary Beth Helton:	7/12	=	58%

After Baseline Period:

Actions: Emphasis in the prior measurement year had been on patient portal completion of the screening tool prior to the patient's visit. This year, for families who did not complete the M-CHAT R prior to their visit on the patient portal, nurses were educated on manual completion of this measure when patient came to the office. Results were then entered into the electronic medical record prior to physician visit with patient. New workflow for completion of this screen was reviewed during nurse huddles and administrative staff huddles. A review of an updated list of community resources available for patients with suspected autism spectrum disorder, including local school-based infant & toddler and preschool early intervention programs and the Autism Society of North Carolina, were also discussed with all providers.

Date Action Initiated: 11/11/2020

Remeasurement Period:

Start Date: 1/1/2021 ***End Date:*** 1/31/2021

Performance Remeasurement (n/d* and %): 71/71 = 100%

Stratified Data by Provider: (Remeasurement Period)

Dr. Jeff Tanaka:	10/10	=	100%
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Dr. Leanna Willey: 14/14 = 100%
Dr. Christian Nechyba: 10/10 = 100%
Dr. Mari Emmet: 15/15 = 100%
Dr. Mary Beth Helton: 22/22 = 100%

Assessment of Actions & Improvement:

Performance improved from 82% during the baseline period to 100% during the first remeasurement period, exceeding the performance goal of 90%. Education on autism-related community resources for providers, facilitating pre-visit completion of a standardized autism screen in person for patients who had not previously completed it on the patient portal, and adjusting office workflow to insure completion of autism screening in the office prior to physician encounter were effective in improving performance.

Measure 11 – Care Coordination: Urgent Care Visit Tracking

Reason: Our practice does not have a direct EMR integration to urgent care centers within our community. Therefore, urgent care visit summaries by our patients are usually received by paper fax. Systematically entering these urgent care visits as trackable data in our electronic medical record allows for systematic review, care coordination and follow up of urgent care visits by our practice. The goal of this QI measure was to enter urgent care visit data in our EMR, and document appropriate follow up by our practice for the urgent care visit within our EMR. Depending on the reason for the urgent care visit, this might include arranging a follow up visit within our office, a follow up phone call or patient portal message to check on patient's clinical status, or requesting completion of a patient survey to determine why the patient sought care at an urgent care center rather than in their medical home.

Numerator: All patients who had at least one urgent care visit actively tracked and followed up during the measurement period. Follow up can be by phone call, text message, or office visit within 7 days after urgent care appointment.

Denominator: All active patients

Methodology: Reports were generated using the "PCMH 2017 QI Concepts: Measure group 6B1, Urgent Care Use" feature within the Office Practicum Quality Improvement calculator for one month measurement periods.

Baseline Period:

Baseline Start Date: 6/16/2020 **Baseline End Date:** 7/15/2020

Baseline Performance Measurement (n/d* and %): 2/7104 = 0.03%

Numeric Goal (%): 1%

After Baseline Period:

Action: A review was conducted to insure that the four major types of urgent care centers locally (WakeMed Urgent Care, UNC Rex Urgent Care, Minute Clinic and Pediatric Express) were entered into the address book of our Electronic Medical Record, which insured that visits from these urgent care sites could be easily entered into our EMR, and that these urgent care sites could be easily contacted by phone if additional care coordination was needed (i.e., tracking urgent care lab results, X-ray results, etc.).

Date Action Initiated: 8/12/2020 (Prior to Remeasurement Period #1)

Additional Actions: During a meeting with all providers, nurses and administrative management team, a process for electronically integrating all faxed or mailed incoming urgent care data into our EMR system was reviewed. This process was then reviewed with the remaining staff during office huddles.

Remeasurement Period #1:

Start Date: 9/16/2020 **End Date:** 10/15/2020

Performance Remeasurement (n/d* and %): 22/7191 = 0.31%

Numeric Goal (%): 1%

Action: After review of prior data, we noticed that a substantial number of urgent care visits occurred for injuries through orthopedic urgent care sites. The two major networks of orthopedic urgent care centers in our area (Emerge Orthopedics and Raleigh Orthopedics) were entered into the address book of our Electronic Medical Record, which insured that visits from these urgent care sites could be easily entered into our EMR, and that these urgent care sites could be easily contacted by phone if additional care coordination was needed (i.e., tracking urgent care radiology results, etc.).

Date Action Initiated: 12/9/2020 (prior to Remeasurement Period #2)

Additional Actions: During a meeting with providers, nursing and administrative managers, the addition of orthopedic urgent care centers to our new electronic tracking workflow was reviewed. Orthopedic urgent care visits tracked via this new process would be triaged by providers.

Remeasurement Period #2:

Start Date: 2/1/2021 **End Date:** 2/28/2021

Performance Remeasurement (n/d* and %): 30/6946 = 0.43%%

Numeric Goal (%): 1%

Assessment of Actions & Improvement:

Performance improved from 0.03% during the baseline period to 0.31% during remeasurement period #1 and further improved to 0.43% during remeasurement period #2. Performance did not meet the numeric goal of 1%. Addition of major urgent care centers into our EMR's electronic address book and review of a new, structured electronic tracking process was effective in improving performance and allowed us to obtain structured, trackable urgent care visit data to allow for subsequent follow up with patients who visited urgent care centers instead of their medical home. Addition of

orthopedic urgent care centers to this process further improved performance. We plan to include emergency department visits in this tracking process in the future to further improve performance on this measure.

Measure 12 - Chronic Care Measure: Controller Medication Use in Persistent Asthma

Reason: Daily use of anti-inflammatory controller medications is recommended as a preferred treatment for patients with persistent asthma. One method of tracking adherence to daily controller asthma medication use in patients with persistent asthma is to determine how frequently they refill asthma controller medications. We reviewed the electronic prescription records of all patients with persistent asthma to determine if they had a current prescription for their daily controller medicine as a method for identifying patients who may not be adherent with medication management.

Methodology: We utilized the “Pediatric CQMs, 2014, Measure Group CMS126-0036” report from the Office Practicum Quality Improvement Calculator to obtain a list of patients diagnosed with persistent asthma seen during the 12 months preceding the first date of the measurement period for well care or asthma follow up. We then conducted manual reviews of each patient’s electronic prescription record to determine whether patients had a current prescription available for their asthma controller medication. Measurement periods were for two-month increments.

Numerator: Qualifying patients who had evidence for a current electronic prescription for their asthma controller medication during the measurement period, as recommended at their last well visit or asthma follow up visit.

Denominator: All patients with persistent asthma seen during the 12 months preceding the first date of the measurement period for well care or asthma follow up.

Baseline Period:

Baseline Start Date: 6/15/2020 **Baseline End Date:** 8/14/2020

Baseline Performance Measurement (n/d* and %): 24/35 = 69%

Numeric Goal (%): 80%

Action: For each patient who did not have a current asthma controller medication prescription in their electronic prescription record, our asthma coordinator reached out to the patient by phone or patient portal message to insure they understood the importance of controller medication in quality of life, asthma control, decreased likelihood of asthma exacerbation, and decreased likelihood of requiring ED or hospital care. The asthma care coordinator also addressed potential safety concerns, including concerns about inhaled steroid use often expressed by patients with persistent asthma. Educational materials and scripts were provided to the asthma coordinator to address knowledge gaps in terms of the benefits and safety of asthma controller medications, and strategies for assessing effectiveness of these medications.

Date Action Initiated: 8/19/2020

Remeasurement Period:

Start Date: 9/1/2020

End Date: 10/31/2020

Performance Remeasurement (n/d* and %): 23/27 = 85%

Assessment of Actions & Improvement:

Performance improved from 69% during the baseline period to 85% during the remeasurement period, which exceeded the performance goal of 80%. Personal outreach to patients whose electronic prescription record indicated decreased adherence to asthma controller medications was effective in improving performance by providing additional education on benefits and safety of these medications.

Measure 13 – Chronic Care/Health Disparity Measure: Controller Medication Use in Persistent Asthma, Disparity of Vulnerable Population

Reason: Patients in a vulnerable patient population, defined by lower socio-economic status as defined by Medicaid insurance or no health insurance, have increased barriers to filling chronic medications, including asthma controller medications. In addition, there is evidence that lower socio-economic status leads to increased risk of morbidity from persistent asthma. See Measure 12 above for background on this measure. The same data is tracked by insurance type (private insurance vs. Medicaid or no insurance) to identify the disparity in the vulnerable population.

Baseline Period:

Baseline Start Date: 6/15/2020

Baseline End Date: 8/14/2020

Baseline Performance Measurement for Vulnerable Population (n/d* and %): 3/7 = 43%

Baseline Performance Measurement for General Population (n/d* and %): 24/35 = 69%

Numeric Goal (%): 80%

Action: In addition to the interventions for the general population (see Measure 12 above), the asthma care coordinator was provided strategies for addressing cost concerns regarding asthma controller medications, and specifically inquired about cost barriers in the vulnerable patient group. Strategies for dealing with cost barriers included use of office samples of controller medication, use of pharmaceutical company discount programs, use of non-pharmaceutical discount programs (such as GoodRx), and substitution of cheaper, generic alternatives or 90 day instead of 30 day prescriptions to decrease costs. The asthma care coordinator was provided with tools to address cost barriers in vulnerable patients with persistent asthma.

Date Action Initiated: 8/19/2020

Remeasurement Period:

Start Date: 9/1/2020

End Date: 10/31/2020

Performance Re-Measurement for Vulnerable Population(n/d* and %): 5/7 = 71%

Performance Re-Measurement for General Population (n/d* and %): 23/27 = 85%

Assessment of Actions & Improvement:

Performance in the vulnerable group increased from 43% during the baseline period to 71% during the remeasurement period, but did not meet the performance goal of 80%. The disparity between the general population and the vulnerable population decreased from a 26% difference during the baseline period to a 14% difference during the remeasurement period, but a substantial disparity remained. Addressing cost barriers with patients in the vulnerable group through care coordination was effective, but additional strategies are needed to further close the disparity in this population.

Measure 14 – Health Care Costs: Antibiotic Use for Sinusitis

Reason: The American Academy of Pediatrics provides the following guidance for the prescription of antibiotics for acute bacterial sinusitis:

“Acute bacterial sinusitis should be diagnosed in a child who has an acute upper respiratory tract infection with persistent illness (i.e., nasal discharge or daytime cough or both) lasting more than 10 days; worsening cough, worsening or new nasal discharge, or daytime cough or fever after initial improvement; or severe onset of fever and purulent nasal discharge for at least 3 consecutive days. The clinician should prescribe antibiotics for acute bacterial sinusitis in children with severe onset or worsening course. Children with persistent illness should be either prescribed antibiotic therapy or offered additional observation for 3 days.” (Source: DeMuri, G and Wald, E, Acute Bacterial Sinusitis in Children *Pediatrics in Review* October 2013, 34 (10) 429-437. <https://pedsinreview.aappublications.org/content/34/10/429>)

During the baseline period, 68% of patients in our practice with a diagnosis of acute bacterial sinusitis met this criteria for antibiotic use on chart review. Prescription of antibiotics to patients with viral upper respiratory infections who do not meet these criteria increases health care costs unnecessarily. This measure was targeted for quality improvement.

Numerator: Number of patients seen during the measurement period:

- (1) with a diagnosis of bacterial sinusitis and treated with antibiotics, and
- (2) all necessary clinical criteria, as defined above, for a diagnosis of bacterial sinusitis is documented in the medical record.

Denominator: Number of patients who were seen during the measurement period with a diagnosis of bacterial sinusitis and were treated with antibiotics (including both patients with documentation of necessary clinical criteria for sinusitis, and patients without this documentation).

Methodology: Chart review based on patient lists from a three month measurement period of all patients with a diagnosis of bacterial sinusitis (all ICD-10 codes beginning in J01). Each encounter note with a diagnosis of sinusitis was then reviewed to determine if criteria for sinusitis as discussed in the AAP guideline above was documented in the medical record before antibiotics were prescribed.

Baseline Period:

Baseline Start Date: 6/15/2020 ***Baseline End Date:*** 9/14/2020

Baseline Performance Measurement (n/d* and %): 13/19 = 68%

Numeric Goal (%): 80%

Action: The American Academy of Pediatrics guidelines for judicious prescription of antibiotics for acute bacterial sinusitis (see above) were reviewed in a meeting with all providers. Three prompts were added to the sinusitis encounter note template within our electronic medical record to remind providers during the clinic visit that one of these criteria was necessary for a diagnosis of acute bacterial sinusitis. These prompts ask providers if the patient experienced any of the 3 criteria for bacterial sinusitis reviewed in the AAP guideline:

1. > 10 days of rhinorrhea, congestion or cough without improvement or alternate diagnosis? (Yes/No)
2. >3 days of high fever or purulent rhinorrhea (Yes/No)
3. Worsening of congestion, cough, or fever after initial improvement without alternate diagnosis? (Yes/No)

Date Action Initiated: 11/11/2020

Remeasurement Period:

Start Date: 11/15/2020 ***End Date:*** 2/14/2021

Performance Remeasurement (n/d* and %): 30/34 = 88%

Assessment of Actions & Improvement:

Performance improved from 68% during the baseline period to 88% during the remeasurement period, which met the performance goal. Review of AAP diagnostic guidelines for acute bacterial sinusitis with providers and the addition of point-of-care prompts for the provider added to the sinusitis encounter note template were effective in improving performance. Application of more strict diagnostic criteria for sinusitis is expected to lead to decreased use of unnecessary antibiotics for upper respiratory infections which do not meet the strict diagnostic criteria for acute bacterial sinusitis. Decreased use of antibiotics leads to decreased health care costs.

Measure 15 – Care Coordination with Hospitals and Public Health
Department: Newborn Screening

Reason: It is recommended that all newborns have metabolic screening and hearing screening performed within the first several days after delivery. These tests are usually performed while newborns are still in the hospital. Metabolic screens are sent to the state health department, and results are usually not available until newborns are discharged from the hospital. Hearing screens often need to be repeated by an audiology specialist if abnormal once a newborn is discharged from the hospital. For these reasons, pediatric practices need to coordinate care with hospitals, public health departments, and audiology specialists to insure timely results, communication to families, and follow up care for patients with abnormal results.

Numerator: For all qualifying patients, patients with completed hearing screening and newborn metabolic screening documented within the electronic medical record, as well as documentation of follow up for any abnormal results.

Denominator: All active patients under one year of age during the measurement period

Methodology: For one month measurement periods, reports are obtained from the “PCMH 2017 CC Concepts, Measure Group CC02” section of the Office Practicum Quality Improvement Calculator.

Baseline Period:

Baseline Start Date: 7/15/2020 **Baseline End Date:** 8/14/2020

Baseline Performance Measurement (n/d* and %): 368/402 = 91.5%

Numeric Goal (%): 95%

Action: Our newborn care coordinator reviewed the medical record of each patient who did not meet the performance measure monthly. The care coordinator would then follow up with the birth hospital, the North Carolina Department of Public Health or the audiology specialist to obtain any missing records related to newborn metabolic or hearing screening. All missing records were reviewed by the patient’s primary provider, and any needed follow up was arranged.

Date Action Initiated: 9/9/2020

Remeasurement Period:

Start Date: 1/1/2021 **End Date:** 1/31/2021

Performance Remeasurement (n/d* and %): 351/373 = 94.1%

Assessment of Actions & Improvement:

Performance improved from 91.5% during the baseline period to 94.1% during the remeasurement period, but did not meet the performance goal of 95%. Regular, proactive care coordination by the newborn care coordinator improved performance. Outreach to local non-hospital birthing centers and outreach to providers of patients who transferred primary care during the newborn period needed to be improved to obtain some remaining missing records.

Measure 16 - Patient Experience Measure/Disparity of Care Measure:

“Curbside” Appointments during the CoVID-19 Pandemic

Reason: On review of our Patient & Family Survey, 72.5% of patients surveyed stated that when their child required an acute appointment, they were offered an appointment the same day. During the CoVID-19 pandemic beginning in spring 2020, it was noted that many patients encountered several additional barriers to obtaining a timely appointment for a sick child. These barriers included:

1. Due to new pandemic procedures in our office, sick and well appointments were separated at different times of day. This meant that patients with potential contagious illnesses could not be seen in the office during the same time as well patients, leading to longer waits for sick appointments.
2. Many patients were hesitant to come into the office due to concerns about potential exposure to CoVID-19.
3. Disparity: Patients with Medicaid or who were uninsured had significantly lower rates of office sick visits during the pandemic. Often, these patients had increased difficulty scheduling in-office sick appointments during the restricted times available during the pandemic because of work, school, childcare or transportation issues. During the pandemic, in-office sick visits were only offered during times when no well patients were being seen in the office. Due to this disparity, this measure was stratified by measures of socio-economic status (Medicaid/uninsured vs. privately insured)

Both through verbal feedback and through our patient suggestion box, patients requested the ability to have sick visits outside the office building. We therefore created a new appointment type called a “curbside” appointment which would occur entirely outside the building in the parking lot (or in a parking deck under the building during inclement weather). “Curbside” sick visits could be scheduled at any time, as sick patients would remain physically distant from other patients in the office, even during “well patient” hours.

Numerator: “Curbside” sick visit appointments during the measurement period

Denominator: All in-person sick visit appointments during the measurement period

Methodology: Manual review of the office schedule for each measurement period. Patients were stratified into vulnerable group (Medicaid or uninsured) and general population group. Measurement periods were two weeks long.

Baseline Period:

Baseline Start Date: 10/12/2020 **Baseline End Date:** 10/25/2020

Baseline Performance Measurement for Vulnerable Population (n/d* and %): 1/19 = 5%

Baseline Performance Measurement for General Population (n/d* and %): 21/172 = 12%

Numeric Goal (%): 15%

Action: A new functionality was created in our electronic medical record system allowing patients to “check in” for their appointment outside the office by text message. The provider would then be automatically notified within the EMR that the patient was ready to be seen, and administrative staff would ask family by phone to identify their vehicle and location. The curbside feature was advertised to all patients via our practice website and via social media. For patients in the vulnerable population group, we would additionally provide follow up phone calls for patients who did not book any appointment for an acute health problem once one was recommended by the phone triage team, and for patients who did not show or cancelled an acute care same-day appointment – these patients were reminded that a curbside appointment was another option for a visit.

Date Action Initiated: 11/11/2020

Remeasurement Period:

Remeasurement Start Date: 1/18/2021

Remeasurement End Date: 1/31/2021

Remeasurement Performance Measurement for Vulnerable Population (n/d* and %): 6/22 = 27%

Remeasurement Performance Measurement for General Population (n/d* and %): 42/230 = 18%

Assessment of Actions & Improvement:

Performance in both groups improved, and the performance goal was met. The disparity between the general population and the vulnerable population was eliminated. Phone follow up for appointment hesitancy was effective in bringing more patients in the vulnerable group in for an acute care appointment when a curbside visit was a practical option for the presenting complaint. One possible reason for this was that the restricted times of day that sick patients could come into the office during the pandemic was a barrier to scheduling for patients, but curbside sick visits could be scheduled at any time of day since sick “curbside” patients would remain physically distant from well patients in the office, and thus provided greater scheduling flexibility.

Measure 17 – Preventive Care Measure: Social Determinants of Health

Reason: The deep economic recession triggered by the CoVID-19 pandemic increased the urgency of screening for social determinants of health among our patients. A specific effort was made to increase the frequency of screening key social determinants of health during well visits during the pandemic.

Numerator: Number of qualifying patients in whom social determinants of health as listed above were assessed.

Denominator: All patients with a well visit during the measurement period

Methodology: A one-month report was generated through the “PCMH 2017 KM Concepts, Measure Group KM07” section of the Office Practicum Quality Improvement Calculator for each measurement period.

Baseline Period:

Baseline Start Date: 8/1/2020 ***Baseline End Date:*** 8/31/2020

Baseline Performance Measurement (n/d* and %): 472/780 = 60.5%

Numeric Goal (%): 75%

Action Taken: During a meeting with providers, nurse manager, and administrative management, the key features of structured screening for social determinants of health were reviewed. In addition, a specific list of community resources to address these needs was added to the top of the practice website community resources page (<https://www.carolinakidspediatrics.com/carolina-kids-community-resources.html>) and a handout was generated and made available to all patients regarding these community resources. Both the new web-based and paper resource lists were reviewed in practice huddles, so that providers would have rapid access to specific resources when screening identified social risk factors.

Date Action Initiated: 12/9/2020

Remeasurement Period:

Start Date: 12/15/2020 ***End Date:*** 1/14/2021

Performance Remeasurement (n/d* and %): 454/568 = 79.9%

Assessment of Actions & Improvement:

Performance improved from 60.5% during the baseline period to 79.9% during the remeasurement period, meeting the performance goal of 75%. A review with staff and providers of structured screening for social determinants of health, combined with improved communication to staff and patients of community resources to address social risks, was effective in improving performance.

Measure 18 - Measures affecting Health Costs: Generic Prescribing

Reason: A key component of reducing prescription drug costs is choosing lower cost, generic medications whenever possible. Published data indicates that at least 80% of medications prescribed in the U.S. have been generic in recent years. (Source: *Making Medicines Affordable: A National Imperative*, National Academy of Sciences, Committee on Ensuring Patient Access to Affordable Drug Therapies; Nass SJ, et al, National Academic Press (US); 2017 Nov 30.)

Numerator: Generic prescriptions created during the measurement period.

Denominator: All prescriptions created during the measurement period.

Methodology: This data was pulled electronically in two-month increments from the “Internal Pediatric Quality Measures” section of the Office Practicum Quality Improvement calculator.

Baseline Performance:

Baseline Start Date: 7/1/2020 **Baseline End Date:** 8/31/2020

Baseline Performance Measurement (% or #): 676/1014 = 66.7%

Numeric Goal (% or #): 75%

Stratified Data by Provider: (Baseline Period)

Dr. Jeff Tanaka:	111/190	=	58%
Dr. Leanna Willey:	140/256	=	55%
Dr. Christian Nechyba:	263/329	=	80%
Dr. Mari Emmet:	100/154	=	65%
Dr. Mary Beth Helton:	62/85	=	73%

Note: Adding data from all providers may not always precisely equal cumulative data, since patients may have identified more than one primary provider during the measurement period.

Actions: Lists of medications prescribed by individual providers were distributed to each provider and reviewed at quality improvement meetings. Specific patterns of generic vs. brand name prescribing for each provider were reviewed and opportunities for improvement discussed. These reviews were conducted quarterly.

Date Action Initiated: 10/14/2020

Remeasurement Performance:

Start Date: 11/1/2020 **End Date:** 12/31/2020

Performance Remeasurement (% or #): 645/948 = 68%

Stratified Data by Provider: (Remeasurement Period)

Dr. Jeff Tanaka:	104/196	=	53%
Dr. Leanna Willey:	146/224	=	65%
Dr. Christian Nechyba:	235/295	=	80%
Dr. Mari Emmet:	96/130	=	74%
Dr. Mary Beth Helton:	64/103	=	62%

Note: Adding data from all providers may not always precisely equal cumulative data, since patients may have identified more than one primary provider during the measurement period.

Assessment of Actions & Improvement:

Performance was 66% during the baseline period and 68% during the remeasurement period, which was not substantially different. The quality improvement goal of 75% was not met. There was a dramatic decrease in prescriptions for acute illnesses during the COVID pandemic (i.e., antibiotics for respiratory infections) due to the effectiveness of social distancing in mitigating many routine childhood illnesses. Although most acute medications prescribed by the practice were generic, the majority of medications prescribed during the pandemic were medications for chronic conditions (i.e., asthma, ADHD, etc.). For many of these conditions, brand-name medications were often

preferred by specific insurance plans over generic medications. This led to limitations on the ability to demonstrate more significant improvements in this measure during the Covid pandemic.

Measure 19 – Immunization Measure: Completion of HPV Vaccination Series by 13th Birthday

Reason: The CDC and AAP recommend completion of the HPV vaccine series within 6-12 months after the first dose is given in adolescents 11-12 years and older. Because many adolescents do not come to a health care provider frequently, many do not complete the HPV vaccine series on time. More proactive reminder/recall systems are needed to insure timely HPV vaccine completion.

Numerator: Qualifying patients who completed the HPV series before their 13th birthday.

Denominator: Patients who turned 13 during the measurement period and had at least one encounter during the period.

Methodology: Two-month reports were pulled for measure group H011 of “PCMH 2017 QI Concepts” section of the Office Practicum Quality Improvement Calculator.

Baseline Performance:

Baseline Start Date: 10/1/2020 **Baseline End Date:** 11/30/2020

Baseline Performance Measurement (% or #): 15/19 = 79%

Numeric Goal (% or #): 85%

Actions: A red sticker was placed on the checkout sheet of all patients who received an initial dose of HPV dose to alert administrative staff to schedule a follow up vaccine visit when the patient checked out after their office visit. Also, providers had the option of recommending a patient app for patients who were not able to schedule a second dose of HPV vaccine at the time the first dose was given which would automatically text them with a reminder to schedule the second dose 6 months after the first dose was administered. These workflow changes were discussed during a quality improvement meeting with providers as well as administrative and nurse managers.

Remeasurement Performance:

Start Date: 1/1/2021 **End Date:** 2/28/2021

Performance Re-Measurement (% or #): 8/8 = 100%

Assessment of Actions & Improvement:

Performance improved from 79% during the baseline period to 100% during the remeasurement period, which met the performance goal of 85%. The actions taken to remind patients to schedule their second dose of HPV vaccine were effective in improving quality on this measure.

Measure 20 – Chronic Care Measure/Disparity of Care Measure:
Follow up Care for Patients Diagnosed with ADHD after Initiation of Medication

Reason: Attention-deficit/hyperactivity disorder (ADHD) is one of the most common mental health disorders affecting children. 11% of American children have been diagnosed with ADHD. The main features include hyperactivity, impulsiveness and an inability to sustain attention or concentration. When managed appropriately, medication for ADHD can control symptoms of hyperactivity, impulsiveness and inability to sustain attention. To ensure that medication is prescribed and managed correctly, it is important that children be monitored by a pediatrician with prescribing authority. (Source: <https://www.ncqa.org/hedis/measures/follow-up-care-for-children-prescribed-adhd-medication/>) When baseline data for this measure was stratified by socioeconomic status (Medicaid insurance/no insurance vs. private insurance), lower performance was documented in the vulnerable patient group (Medicaid/no insurance), though patient numbers were low.

Numerator: All children 6-12 years of age and newly dispensed a medication for attention-deficit/hyperactivity disorder (ADHD) during the measurement period who had one follow-up visit with a provider within 30 days from the date of their medication prescription.

Denominator: All children 6-12 years of age and newly dispensed a medication for attention-deficit/hyperactivity disorder (ADHD) during the measurement period. “Newly dispensed” medication is defined as all children who did not have any medication prescribed for ADHD in the prior 120 days (all other patients with ADHD were considered patients on maintenance medication, and not patients newly initiating medications, and were thus excluded from the measure).

Methodology: For each two-month measurement period, an electronic report was pulled for Measure Group 0108_a of the “PCMH 2017 QI Concepts” section of the Office Practicum Quality Improvement calculator. Each patient’s chart was then manually reviewed to determine if performance was indeed met, insure that patient did not meet exclusion criteria, and to stratify patient by insurance type into vulnerable vs. non-vulnerable patient population.

Baseline Performance:

Baseline Start Date: 9/1/2020

Baseline End Date: 10/31/2020

Baseline Performance Measurement for General Population (% or #): 9/12 = 75%

Baseline Performance Measurement for Vulnerable Population (% or #): 1/3 = 33%

Numeric Goal (% or #): 90%

Actions: When a provider prescribed a new medication for ADHD (as defined above) and requested a follow up visit within 30 days or less from the date of the initial prescription, the patient’s name was given to our ADHD care coordinator. The care coordinator would follow up to insure that a follow up visit within 30 days was

scheduled, and that the patient came to the scheduled appointment. The care coordinator reached out to patients by phone who did not schedule a visit, or who cancelled/did not show for their follow up visit. When appropriate, patients were sometimes offered the option of a telemedicine follow up visit or a visit during later hours if there were barriers identified by the care coordinator to a follow up ADHD visit.

Date Actions Taken: 11/11/202

Remeasurement Performance:

Start Date: 12/1/2020 **End Date:** 1/31/2021

Performance Remeasurement for General Population (% or #): 15/16 = 94%

Performance Remeasurement for Vulnerable Population (% or #): 2/2 = 100%

Assessment of Actions & Improvement:

Although performance improved from 33% to 100% in the vulnerable population group and from 75 to 94% in the general population group, meeting the performance goal of 90% in both groups and closing the disparity, the baseline group only had 3 patients in the vulnerable population group and the remeasurement group only had 2 patients in the vulnerable population group. We are therefore hesitant to conclude that this represents meaningful, sustained performance. Longer follow up measurement groups will be needed to determine the effectiveness of interventions. Neither patient in the vulnerable population group utilized a telemedicine option for follow up but care coordinator recall was needed for both patients in the vulnerable population group.

Measure 21 – Behavioral Health Measure: Adolescent Depression Screening

Reason: According to American Academy of Pediatrics guidelines, “patients ages 12 years and older should be screened annually for depression (MDD or depressive disorders) with a formal self-report screening tool either on paper or electronically (universal screening).” (Source: Guidelines for Adolescent Depression in Primary Care. Zuckerbrot RA, et al. Pediatrics. March 2018, 141(3) e20174081. Link: <https://pediatrics.aappublications.org/content/141/3/e20174081#sec-15>) During the baseline measurement period, 75% of adolescent patients in our practice had depression screening using the PHQ-2 standardized screen documented in their electronic medical record. Providers in the practice agreed that this number should be improved given the guideline for universal screening.

Numerator: All qualifying patients 12 years and older who had a standardized depression screen documented in the electronic medical record during the measurement period and had a preventive care visit during the measurement period.

Denominator: All patients 12 years and older who had a preventive care visit during the measurement period.

Methodology: Bimonthly, for each 2-month measurement period, the CMS2 measure group in the “Alternate CQMs” measure of the Quality Improvement calculator in our practice EMR was pulled. This report was then also stratified for individual providers.

Baseline Performance:

Baseline Start Date: 9/1/2020 **Baseline End Date:** 10/31/2020

Baseline Performance Measurement (% or #): 243/301 = 80.7%

Numeric Goal (% or #): 85%

Stratified Data by Provider: (Baseline Period)

Dr. Jeff Tanaka:	42/54 =	77.8%
Dr. Leanna Willey:	70/84 =	83.3%
Dr. Christian Nechyba:	69/84 =	82.1%
Dr. Mari Emmet:	39/40 =	97.5%
Dr. Mary Beth Helton:	23/39 =	59.0%

Note: Adding data from all providers may not always precisely equal cumulative data, since patients may have identified more than one primary provider during the measurement period.

Actions: The PHQ-2 standardized depression screen was added to the pre-visit tasks available to patients on the patient portal whenever a well visit was scheduled in a patient 12 years of age or older. This allowed patients to complete a standardized depression screen online prior to their office visit which could be reviewed by the provider before the office visit.

Date Actions Initiated: 11/11/2020

Remeasurement Performance:

Start Date: 1/1/2021 **End Date:** 2/28/2021

Performance Remeasurement (% or #): 258/295 = 87.5%

Stratified Data by Provider: (Remeasurement Period)

Dr. Jeff Tanaka	44/50 =	88.0%
Dr. Leanna Willey	88/91 =	96.7%
Dr. Christian Nechyba	57/64 =	89.1%
Dr. Mari Emmet	39/39 =	100%
Dr. Mary Beth Helton	30/51 =	58.8%

Note: Adding data from all providers may not always precisely equal cumulative data, since patients may have identified more than one primary provider during the measurement period.

Conclusions: Standardized depression screening rates improved from 80.7% to 87.5%, meeting the performance goal of 85%. Actions taken were effective in improving depression screening in patients 12 years and older.