PROMISING PRACTICES
CHRONIC DISEASE INDICATORS
Based on Uniform Data Systems (UDS) Reports

Authors
Rajesh Parikh, M.D., MPH
Vice President, Clinical Service and Workforce Development
Illinois Primary Health Care Association

Manasi Jayaprakash, M.D., MPH
Intern
Illinois Primary Health Care Association

Contributing Author
Samantha McCurties, M.D., MPH
Resident
University of Illinois at Chicago

Illinois Primary Health Care Association
TABLE OF CONTENTS

Acknowledgment .................................................................................................................. 2
Introduction ............................................................................................................................ 3

Indicator 1 – Asthma Treatment (Appropriate Treatment Plan) Strategies .................................................... 4

Indicator 2 – Blood Pressure Control (Hypertensive Patients with Blood Pressure < 140/90) Strategies ......................................................................................................................... 6

Indicator 3 – Diabetes Control (Diabetic Patients with HbA1c ≤ 9) Strategies ................................................................................................................................. 10

Quality Improvement Strategies in Illinois Health Centers ................................................................................. 12

Appendix A – Health Center Information .............................................................................................................. 14
Appendix B – Asthma Forms ............................................................................................................................... 15
We are extremely thankful to Dr. Samantha McCurties for the initial draft of this document. In addition, we express our gratitude to IPHCA’s Clinical Support Committee and Kelly Carter, IPHCA’s Chief Operating Officer, for their valuable feedback. We are also thankful to Amy Watson, Director of Communications and Training, IPHCA; Kathryn Peterson, Graphic Designer, IPHCA; and, Ashley Colwell, Manager of Workforce Development, IPHCA, for aesthetically transforming this document to its present state. Last, but not the least, without whom, this report would be incomplete, a special thank you to all the health centers for their valuable time in discussing their successful strategies with us; gratitude to PCC Community Wellness Center, Asian Human Services Family Health Center, Rural Health, Inc., Shawnee Health Service, Community Health Improvement Center, Esperanza Health Centers, and VNA Health Care.

Finally, we want to express our profound admiration to all the health centers for their tremendous efforts in addressing health disparities.

Manasi Jayaprakash, M.D.
Rajesh Parikh, M.D.
**INTRODUCTION**

Community health centers (CHCs) are critical to meeting the health care needs of the underserved, a population that is not only burdened by multitude of health problems but face significant barriers in accessing health care. CHCs have made admirable strides in bridging the gap between unaffordability and health care in this population group. However, the prevalence of chronic diseases is increasing and health centers face multiple challenges, some of which are establishing continuity of care, language barriers by patients, transition to electronic health record (EHR) system, a shortage of primary care workforce, and resource constraints. In the face of these challenges, there is a need for compilation of evidence-based guidelines and promising practices that are adaptable to primary care settings.

The Uniform Data System (UDS) chronic disease clinical indicators provide the framework for this document. Selected indicators are asthma treatment, hypertension control and diabetes control. The Healthy People 2020 (HP 2020) targets, when available, are used as benchmarks to measure performance. Health centers in Illinois that have consistently exceeded the HP 2020 targets or are the consistent top performers when compared with other health centers in Illinois during 2010-2012 UDS data reporting period were identified and interviewed to recognize their successful strategies that have helped them overcome barriers and achieve success. An appropriate mix of urban and rural health centers was aimed for. Health centers interviewed included: PCC Community Wellness Center; Asian Human Services Family Health Center; Rural Health, Inc.; Shawnee Health Service; Community Health Improvement Center; Esperanza Health Centers; and, VNA Health Care.

In addition, evidence-based recommendations from experts such as Community Preventive Services Task Force (Task Force) and promising strategies identified through literature review are highlighted. The Community Guide (www.thecommunityguide.org), website of resources by the Task Force, is a credible resource based on a scientific systematic review process and identifies recommendations from numerous existing studies with strong or sufficient evidence. The Task Force is constituted by expert members who are appointed by the Director of the Centers for Disease Control and Prevention (CDC). Recommendations that are feasible in a CHC setting are mentioned.

The essential purpose of this document is to provide a resource for health centers that consists of not only evidence-based recommendations, but also includes promising practices from some of the best performing Illinois health centers. In addition, this document could be used to facilitate dialogue between health centers on promising practices to further enrich the existing primary care system to attain higher quality and efficiency.

**Using this Resource**

Under each indicator, strategies for improving performance and quality are categorized into the following sections: Illinois Health Center Spotlight, The Community Guide recommendations, and Strategies from Literature Search. Furthermore, due to commonality of quality improvement (QI) strategies to multiple indicators, QI and other common practices that are in place at each interviewed health center will be emphasized in the final section of the document after covering individual indicators.

---

1 Please note that the new UDS 2014 measure HIV Linkage to Care has not been addressed in this document since this was prepared before the availability of UDS 2014 data. However, it will be addressed in the subsequent edits.
Although the UDS asthma measure considers only appropriate pharmacologic therapy, the below strategies are focused on all the components of asthma management that will aim to improve overall patient outcomes and reduce acute asthma attacks and emergency visits.

**Illinois Health Center Spotlight**

1 **Esperanza Health Centers – Chicago, IL**

   Esperanza’s performance on the asthma measure improved from 92.9% in 2012 to 98.6% in 2013, making it one of the top 10 performers in 2013. Some of their strategies surrounding this measure include:

   - Without any specific diagnostic code for intermittent asthma in EHR (NextGen), this measure is manually reviewed for UDS submission, which provides an accurate entry.
   - A program is being developed at Esperanza to address allergies.
   - Esperanza has an allergist on site once a week and they have initiated a program to perform incentive spirometer and Asthma Control Test (ACT) during asthma visits in one of their sites.

2 **PCC Community Wellness Center – Oak Park, IL**

   PCC Community Wellness Center’s (PCC) performance on the asthma indicator has been consistently above the 75th percentile from 2011-2013 with the percentage of asthma patients on appropriate pharmacologic treatment being 97.1% in 2011, and 98.6% in 2012 and 2013. This is also much higher than both the state and national averages. In addition to the quality improvement strategies highlighted at the end of the document, PCC employs Electronic Medical Record (EMR) forms that aid in adhering to the protocol for asthma control. This is similar to the recommendations for quality improvement identified through literature review.

**The Community Guide**

The Task Force recommends the use of home-based multi-trigger, multicomponent interventions with an environmental focus for children and adolescents with asthma based on strong evidence of effectiveness in improving overall quality of life and productivity, specifically improving asthma symptoms and reducing the number of school days missed due to asthma.²

Interventions involved home visits by trained personnel to conduct two or more activities. Environmental activities included:

- Assessment of the home environment.
- Changing the indoor home environment to reduce exposure to asthma triggers.
- Education about the home environment.

One or more of additional non-environmental activities were also included in some programs:

- Training and education to improve asthma self-management.
- General asthma education.
- Social services and support.
- Coordinated care for the asthma client.

**Other Strategies From Literature Search**

1 **Quality improvement for childhood asthma in community health centers**:

   This study³ evaluates a streamlined Continuous Quality Improvement (CQI) intervention along with the active participation of asthma coordinators in 17 community health centers in relation to compliance with the National Asthma Education and Prevention Program (NAEPP) guidelines and asthma-related outcomes for children and caregivers. For the patients and families, results indicated that significantly fewer families reported emergency department visits, reduced hospitalizations, decrease in frequent daytime symptoms and lesser missed school days in addition to improved quality of life.

---


The health centers saw significant clinic-wide improvements in symptom documentation, health care use, and review of action plans. Based on the results and the representativeness of the study population (60% Medicaid and 9% uninsured), the intervention components can be translated into Illinois health center settings.

- Multidisciplinary CQI teams were formed at each site where each clinic used a team-based, systematic, data-driven CQI process.
- Changes were implemented in patient education and at least two of three additional core components (asthma visit flow sheet, asthma action plan, and home trigger assessment).
- Asthma coordinator (health educators, community health workers, medical assistants, or respiratory therapists) played a crucial role in the intervention.
- Role of asthma coordinator:
  - providing patient education;
  - ensuring incorporation of information collected through patient interactions into CQI planning; and,
  - coordination of CQI interventions and program activities, care management, and linkages among providers, home, school, and community.

2 Tools and Strategies for Improving Asthma Management:

Although this quality improvement strategy took place in a clinical setting using paper charts, some of the tools and strategies recommended by them can be translated to community health centers that are utilizing EHR. The site was a large residency training site staffed by many part-time physicians using paper charts in Massachusetts. Rapid chart audits (100 charts) helped in identifying the deviation of asthma practices from recommended guidelines, which led to designing interventions with the aim of improving quality of care provided to asthma patients over six months. The focus was shifted to team effort with substantial reliance on nursing staff and chart tools designed to stimulate the capture of essential information. The following are the interventions that were initiated:

- **Training Nurses** – training nurses on asthma guidelines and a positive team-building experience was sponsored by the facility.

- **Asthma Registry** – Patient files with asthma were flagged to help keep track of asthma patients even when they were coming-in for unrelated symptoms.

- **Patient Self-Assessment** – Nursing staff were made in-charge of identifying patients with asthma and ensuring that patients complete a self-assessment form (attached in appendix B). The form served to help patients be more active in their care and help the practice deliver appropriate care to asthma patients even when they were presenting for other conditions.

- **Chart Reminders** – An asthma-management flow sheet (attached in appendix B) was developed to keep staff on-track with guideline-driven care. Nursing staff were responsible for initiating the flow sheet that was designed to be used for up to four visits thus helping physicians identify trends. The form also contained reminders about peak flow measurement, flu vaccination and pneumococcal polysaccharide vaccine.

- **Internal Audits** – Nurse manager audited daily documentation of the asthma severity rating, personal best peak flow, visit peak flow results and use of controller medications. This aided in rapid achievement of 100% performance on these measures.

### Application To Health Centers

Some key strategies are:

- Transferring more responsibility to nursing staff and providing them appropriate training to reduce physician burden.

- Establishing asthma coordinators where there is a higher burden of asthma and expanding the scope of their services might aid in targeting asthma control measures other than pharmacologic therapy.

- Utilizing resources such as the patient self-assessment form might encourage patients to take more control over their asthma self-management.

- Following up on asthma even when patients present for other conditions will help in monitoring of asthma cases.

- Easily accessible protocols for treatment will help in adhering to guidelines.

---

Illinois Health Center Spotlight

Community Health Improvement Center – Decatur, IL
Community Health Improvement Center (CHIC) performance on hypertension has been above the 75th percentile for three years (2010, 2012 and 2013); and, in all the past four years, it has surpassed the HP 2020 target of 61.2%. In 2013, CHIC was the top performer in Illinois at 85.7%.

Successful strategies identified:
• Blood Pressure (BP) measurement and management specific strategies are:
  ○ Training on proper techniques of blood pressure measurement was given to staff through the Illinois Department of Public Health (IDPH). In addition, PCMH accreditation reinforces the right techniques of BP measurement.
  ○ If a patient has elevated blood pressure, a provider is notified, following which correct measures are utilized to confirm if a patient has elevated BP or not. For example, if BP is elevated, patient is made to relax for some minutes before re-checking with appropriate BP cuff.
  ○ If BP is consistently elevated for a patient, nurse visits are arranged, irrespective of them being reimbursed or not.
  ○ Providers document dietary recommendations for patients and provide patient education on BP levels and diet.
• Care Coordination is provided through My Healthcare Coordination. Care coordinators (social workers) check with high risk patients, monitor their BP and dietary intake.
• Grant-based strategies:
  ○ The Association of State and Territorial Health Officials (ASTHO)-funded project was started in Oct 2013 and Healthy Hearts (description in the subsequent section) was initiated in 2012.
  ○ The Million Hearts Initiative, part of ASTHO funding, aided in obtaining BP cuffs and referral of patients to chronic care classes through health department (2-3 classes were conducted in 2013).
  ○ With additional grant funding, care coordination efforts have been stepped up, where care coordinators have access to patient info and thereby reinforce provider recommendations with patients.

PCC Community Wellness Center – Oak Park, IL
PCC’s performance on hypertension control has been above the HP 2020 target and the 75th percentile during 2010 and 2012 with proportion of adults with controlled blood pressure being 77.1% and 81.4% respectively. However, in 2011, the performance was low at 55.7%. In 2013, the performance was lower at 61.4%. But the consistent performance for two years validates the identification of strategies.

Strategies specific to hypertension control are:
• Reminder calls to patients to take their medication and to bring them in during visits.
• Mailing letters to those patients with uncontrolled BP.
• In 2011, hypertension was identified as high risk for PCMH that helped the hypertension indicator gain additional focus.
• EMR – multiple vital signs sheet were created to ensure a second place to document BP readings because an elevated first reading might not be clinically significant.

Healthy Hearts Project and Illinois Health Centers:
Healthy Hearts is an ongoing project in the IDPH. This project aims to utilize data and integrate primary care within community to develop a population health approach to cardiovascular care.

Project features include:
• Integration of EHR and population health data utilizing popHealth, an open source reference implementation software service that automates the reporting of Meaningful Use (MU) quality measures.

IDPH is working with rural Federally Qualified Health Centers (FQHCs) to implement a quality improvement dashboard tool to enable clinicians and patients to work together to better treat and manage hypertension, cholesterol, smoking cessation, and other risk factors.

In addition, collaborations are being built between community agencies, health departments, and primary care.

Currently, IDPH is working with the following health centers and health departments:
- Shawnee Health Service, Marion
- Franklin-Williamson County Health Department
- Community Health Improvement Center, Decatur
- Macon County Health Department
- Heartland Community Health Center, Peoria
- Peoria County Health Department

This project is actively recruiting FQHCs that are willing to partner with local health department and community agencies.

Through this, health centers can have free access to MU certified quality dashboard reporting tool, quality improvement expertise and epidemiologic expertise.

The Community Guide

Evidence points towards recommendations for instituting a Team Based Care (TBC) for adequate blood pressure control. Some key findings are:

- Each team includes the patient, patient’s primary care provider, and other professionals such as nurses, pharmacists, dietitians, social workers, and community health workers.
- Team members provide process support and share responsibilities of hypertension care to complement the activities of primary care provider. Responsibilities include: medication management; patient follow-up; and, adherence; and, self-management support.
- The effectiveness of TBC was greater when team members could change hypertensive medications independent of the primary care provider, or with primary care provider approval or consultation.

For teams that included pharmacists, the median improvement in the proportion of patients with controlled blood pressure was considerably higher than the overall median increase. Some key TBC Interventions that can be followed by the team are:

- Facilitate communication and coordination of care support among various team members.
- Enhance the use of evidence-based guidelines by team members.
- Established regular, structured follow-up mechanisms to monitor patients’ progress and schedule.
- Actively engage patients in their own care by providing them with education about hypertension medication, adherence support (for medication and other treatments), and tools and resources for self-management (including health behavior change).

Other Strategies From Literature Search

1 Hypertension Improvement Project:
This is a randomized controlled trial that tested physician intervention versus control and/or patient intervention versus control in community-based primary clinics. Physician intervention consisted of training on Joint National Committee (JNC) seven guidelines and lifestyle modification for BP control. In addition, patient evaluation and treatment algorithm was provided on a pocket sized laminated card for quick reference. Feedback reports were provided quarterly. Patient intervention consisted of 20 weekly group session followed by 12 monthly telephone counseling contacts where motivational interviewing techniques were used. Telephone counseling focused on weight loss, Dietary Approach to Stop Hypertension, exercise, reduced sodium intake, and moderation of alcohol intake. Intervention was designed to promote frequent self-monitoring, feedback, goal setting, and social support. The results indicated that intensive behavioral lifestyle intervention significantly reduced BP at six months. In addition, combined physician and patient intervention had the highest impact on BP reduction where Systolic Blood Pressure (SBP) decreased by 9.7 ± 12.7 mmHg. However, the results were not sustained at 18 months.


This study indicates that in a primary care setting, intensive patient intervention might help control blood pressure. Although the reasons for not sustaining success at 18 months are not discussed, it is important to devise measures to sustain responses if new interventions are implemented and found to be successful.

Automated Decision Support System and Telemonitoring:
Automated Decision Support System (DSS) offers promise in ensuring guideline-based provision of care for chronic diseases. ATHENA-HTN is one such system that integrates with an existing electronic health record system to display recommendations for management of hypertension to primary care providers and was implemented in primary care clinics at three Veteran’s Administration medical centers. ATHENA-HTN was utilized as one of the arms of intervention in a randomized trial called the Hypertension Intervention Nurse Telemedicine Study (HINTS) where:

- A sample (600) of hypertensive patients with poor BP control were randomized to one of four groups:
  - Nurse-administered behavioral management intervention.
  - Nurse-administered physician directed medication management intervention using ATHENA-HTN.
  - Combined behavioral and medication management intervention.
  - Usual care.
- Behavioral Intervention was delivered that was multi-faceted and tailored consisting of 11 modules and focused on improving self-management.
- Interventions were triggered based on home BP values transmitted via telemonitoring devices over standard telephone lines.
- RESULTS: primary outcome was BP control < 140/90 mmHg.
  - At 12 months, behavioral and medication management alone showed significant improvement. This did not exist at 18 months.
  - Most impact was seen in those with poor baseline BP control where a significant drop in SBP was seen in the combined group.

Similar to the previous study, there was a focus on self-management education and there was no sustained success at 18 months. Both the above studies underscore the importance of guideline-based provision of care and the stress on patient self-management. Again, designing measures to sustain results past the intervention period is very important.

Million Hearts® Campaign
Million Hearts® is a national initiative that was launched by the Department of Health and Human Services in September 2011 to prevent 1 million heart attacks and strokes by 2017. Here, some best practices from success stories around the country are discussed that are applicable in primary care settings. It is important to note that the practices are tailored to individual setting needs. Many of these practices are in-line with The Task Force recommendations and are shared by Illinois health centers as noted above.

- EHR plays a central and strategic role where its various functions across different health centers are: generating reminders to contact patients for follow-up; flagging patients with high blood pressure even when they come in for unrelated health issues; creating worksheets on which patients are overdue for blood pressure checks and whose readings are elevated; provision of monthly color-coded results to track progress; and, generating tailored educational resources for patients.
- Team-based care is a practice in line with the recommendations. In one of the health centers, standing orders are implemented to empower medical assistants to independently order lab work, manage patient medications, and request follow-up visits for patients with uncontrolled hypertension. Practices like these can free up physician time to provide necessary care.


Strategies - Indicator 2 – Blood Pressure Control

• Medication adherence is sometimes maintained by making it convenient for patients. In one of the settings, they switched from 30-day to 90-day prescriptions and some centers have even started online mail-order prescription refills. Some providers link with insurance companies to get alerts when their patients miss prescription refills.

• Patient engagement is crucial for chronic disease management. One health center gives out “health passports” to patients to record their BP readings and track progress towards goal. Another center developed a patient wallet card that tracks blood pressure, cholesterol and other key data. EHR generated progress reports that are easy to understand – a green check for on track and a red X indicating need for progress – are shared by providers with their patients to help them understand where they stand. Tracking progress along with patients was identified as a powerful tool to patient engagement by one of the providers.

• In one of the centers, patients are taught how to use home BP monitoring tools and to call in regularly with their BP readings to be incorporated into EHR.

• Setting free clinics by nurses just for blood pressure monitoring.

Application To Health Centers

• Team-based care might be necessary for effective blood pressure control.

• Care cannot be provider-focused alone, but needs to actively engage patients through intensive self-management education.

• Making the best of EHR in any setting by including latest guidelines might help cover all aspects of care.

• Widening the scope of delivery of care by engaging with health departments when feasible will prove beneficial in continuity of care that will ultimately improve population health.
Illinois Health Center Spotlights

1. Asian Human Services Family Health Center (AHSFHC), Chicago, IL
AHSFHC has been one of the top performers in diabetes control with levels consistently above HP 2020 target since 2010.

Strategies specific to diabetes control that are in practice are:
- A stable team consisting of physician, medical assistant and nurse. Retaining the same physician and nurse for each patient is stressed upon.
- Provision of guideline oriented care.
- Mandatory Continuous Medical Education (CME) on diabetes and hypertension for all physicians.
- Physicians help patients understand their lab reports and remember their medication. Physician driven health education was decided upon when five years ago separate health education classes were conducted and tried for a year, but there was consistent patient no-show. Therefore, during the physician QI meeting, it was decided to provide physician-led health education.
- Provision of some medication for free or some at a subsidized rate (includes insulin) by collaborations with pharmaceutical companies for two years. Access is also ensured by the availability of generic medicines.
- IT strategies –
  - Reminder charts for HbA1c, foot exam, eye exam are generated through EHR based on American Family Physician (AFP) guidelines. Health education print outs for each patient are generated giving them advice of what can be done at home.
  - Using free smart phone apps by some patients to communicate self-monitored blood glucose levels directly with doctors.
- When patients miss an appointment, medicines are still refilled to ensure continuation of medication.

2. Rural Health, Inc., Anna, IL
Rural Health’s performance on diabetes control has been consistently above the 75th percentile and it was also one of the top performers in 2012 and 2013.

Diabetes control specific strategies are:
- A separate flow sheet is utilized, which serves as a tool for not only diabetic patients but also asthmatic patients.
- Flow sheet consists of list of items which serve as a standing order for nurses – a list of items that can be asked at every visit; at six months or annually. List of items include reminders for HbA1c if not done recently, referrals (ophthalmology), and patient’s goals.
- There is a diabetic group meeting held once a month led by a health educator and nurse. Patients are notified of the meeting and come one their own. Extensive education regarding meal plans, following physician orders, physical activity, etc.; are carried out in meeting. In addition, glucose monitors are given for free to uninsured patients.

3. Shawnee Health Service, Carterville, IL
Shawnee Health Service’s performance on diabetes control has been consistently above the 75th percentile in the past four years with its performance exceeding the HP 2020 target in 2011 at 84.3%.

Some of their strategies identified were:
- Presence of a diabetes collaborative
- Nutritionist who is also a certified diabetes educator

4. VNA Health Care – Aurora, IL
VNA Health Care’s performance in diabetes control was above the HP 2020 target in 2011 and 2012, at 87.1% and 88.6% respectively. One successful strategy has been the creation of A1c dashboard. The dashboard signals the progress of patient outcome by indicating in red if HbA1c is above seven and drawing attention to take immediate action. The tool also allows a one-click referral with endocrinologist or physician.
The Task Force recommends provision of Diabetes Self-Management Education (DSME) in community gatherings for adults with Type 2 diabetes and at home for children and adolescents with Type 1 diabetes where evidence has shown that glycemic control improved significantly for both the groups.\(^\text{12}\)

### Other Strategies From Literature Search

#### Patient Empowerment Intervention

Researchers at the University of Chicago in collaboration with community health centers and community partners, pilot tested an observational cohort study for six months with 21 participants in an FQHC. Intervention tested was culturally targeted and was focused on self-care and shared decision making. Results indicated an improvement in diabetes self-efficacy, self-care behaviors, HbA1c and HDL cholesterol. This intervention is part of a multi-targeted intervention that consists of four key components: patient empowerment, health provider training, health systems change, and community partnerships.\(^\text{13}\)

More detail on this intervention can be obtained from www.SouthSideDiabetes.org.

#### Quality Improvement Methodology in designing a self-management education program

This study, funded by the Robert Wood Johnson Foundation’s (RWJF) Diabetes Initiative, took place in Community Health Center, Inc., the largest FQHC in Connecticut. Here, a comprehensive program to provide self-management education to a largely Hispanic population of diabetic patients (488) was developed and tested. One of the QI methodologies, the Plan, Do, Study, Act (PDSA) cycle was utilized in development of the program that was implemented over a period of four years. The goal was for a culturally targeted program and to also address the extremely high prevalence of comorbid depression in patients with diabetes. Although the detailed analysis is pending, the preliminary results look promising with a drop in HbA1c in addition to a significant drop in LDL cholesterol and blood pressure control, and visible clinical improvements in the depressed group that equaled those in the non-depressed group, suggesting that such patients can effectively engage in self-management and improve their diabetes control.\(^\text{14}\)

### Application To Health Centers

- Diabetes self-management education that is culturally-tailored is the cornerstone of effective delivery of patient education.
- Self-management education delivered in a group is effective for adults with Type 2 diabetes.
- Flow charts will ensure the appropriate delivery of care for diabetic patients.
- Diabetic patients with depression should be actively involved in self-management as those patients without any depression.
- Leadership buy-in, especially in providing resources for training, plays a crucial role in ensuring success.
- Reminder calls will help reduce no-show rate and ensure continuity of care for chronic disease patients.


Quality Improvement Strategies in Illinois Health Centers

QI and other common strategies were identified at some of the interviewed health centers. Since these strategies can be applied to multiple indicators, they are mentioned here.

1. PCC Community Wellness Center – Oak Park, IL
   • QI strategies:
     ○ 15 indicators are tracked. This aids in everyone committing to the same goals. Following are the activities in-place during quarterly tracking:
       o Clinic reports and individual provider reports are generated.
       o Site reports are also being generated.
       o Medical director of performance improvement talks to clinic directors of sites and best practices are shared.
   • Other common strategies:
     ○ Development team is assigned to look for grants.

2. Asian Human Services Family Health Center – Chicago, IL
   • QI strategies:
     ○ Chart review interval was shortened to three months from six months which are frequently chaired by President of the Board. Reports are broken up physician-wise to track progress which instills competitiveness.
     ○ In addition to CME opportunities, there is availability of UpToDate to stay abreast of recent changes in guidelines, which aids in addressing quality and safety.
     ○ Illinois Health Connect panel roster is used for benchmarking and QI.
     ○ Physician performance is evaluated annually.
   • Other common strategies:
     ○ Automated reminder calls for missed appointments.
     ○ Developing relationships with outside providers in the community.

3. Rural Health, Inc. – Anna, IL
   • QI strategies:
     ○ A comprehensive approach is taken to QI to ensure that all providers are on board with commitment to strategies to achieve targets. This approach is further enhanced by conducting monthly medical staff meeting and provider education led by QI nurse at each meeting.
     ○ Three years ago, an adult preventative flow sheet was created that includes majority of the questions for providers to follow related to UDS indicators. Several flow sheets are utilized for other services which help in auditing in addition to care for patients.
   • Other Common Strategies:
     ○ In March 2012, NotifyMD helped create patient outreach call system for certain diagnoses. For example, reminders calls are sent to diabetic patients who have not had a follow up in last six months, or reminder calls for immunization.
     ○ The system can include daily appointment reminders or automated reply for no-show calls (e.g. missed appointment in case of prenatal care).
     ○ It could also include a routine call for reminder appointments. This has dropped the no-show rate from 16-18% to < 9% in the past two years.

4. Community Health Improvement Center – Decatur, IL
   • A QI staff is designated to distribute UDS measures during monthly provider meetings in addition to quarterly meetings. All providers are committed to achieving targets based on UDS measures. MU and PCMH discussion is also held during these meetings.
   • CHIC has purchased MediQuire, a data analytics company that integrates and works with installed EHR. MediQuire does retrospective and current analysis of the data and generates dashboards for providers and various types of reports, such as, number of patients (hypertension or diabetes) due on a particular date for a provider. CHIC recently purchased MediQuire with an investment of $10,000.
**5 Esperanza Health Centers – Chicago, IL**
- Providers are familiar with UDS terminologies, which are discussed during periodic staff meetings that help align care provided and UDS measures.
- New providers get an hour long orientation on UDS.
- MAs are also familiarized with UDS concepts.

**6 VNA Health Care – Aurora, IL**
- Committee meetings on a weekly basis with staff from IT, QI and medical director to improve processes and performance.
- Developed their UDS Quality Measure Screen based on the need of the health center.

**Summary of QI and Common Strategies**
- Frequent tracking of indicators will aid in active monitoring of progress and in addressing challenges early on.
- Implementing an automated reminder call system will save crucial staff time and help in reducing patient no-show rate.
- Availability of evidence-based resources will help in adhering to quality and patient safety.
PCC Community Wellness Center – Oak Park, IL
PCC serves around 47,418 patients in 11 sites. It has EHR and is both, NCQA PCMH recognized and the TJC PCMH certified. 92.5% of its patient population belong to racial or ethnic minority group – 34.7% Hispanic/Latino, 56.8% Black/African American, 5.3% American Indian/Alaska Native. 94.6% of its population is at or below 200% poverty level. 11.8% are uninsured and 65.9% had Medicaid. In 2014, patients with hypertension were 16.2%, diabetes 9%, and asthma 6.9%.
http://www.pccwellness.org/

Asian Human Services Family Health Center – Chicago, IL
AHSFHC serves around 9,000 patients from three sites. It is NCQA PCMH recognized and has EHR. 91% of its population was racial/ethnic minority – 75.2% Asian, 18.4% Hispanic/Latino, 12.9% Black/African American. 81% of its population was best served in a language other than English. 98.5% are at or below 200% poverty level. Uninsured population was 52.7% and Medicaid is 41.8%. Patients with hypertension were 15.5% and diabetes 12.9%.
http://www.ahschicago.org/

Rural Health Care, Inc. – Anna, IL
Rural Health serves close to 11,000 patients from 5 sites. Rural Health has EHR. 8.6% of its patients belong to racial/ethnic minority group – 3.3% Hispanic/Latino, 5% African American. Majority of the patients (93.5%) were White. 70.6% of patients were below 200% of Federal Poverty Line. 10% were uninsured and 41.2% had Medicaid. In 2014, patients with hypertension were 35.3%, diabetes 13.7%, and asthma 5.2%.
http://www.ruralhealthinc.org/

Shawnee Health Service – Carterville, IL
Shawnee served close to 31,000 patients from 13 sites. It is NCQA PCMH recognized. Majority (85.4%) of its population were White. Racial/ethnic minority were 18.4%. 98% of its population was at or below 200% poverty level. Uninsured rate was 10.4%, Medicaid was 50.8%, and Medicare was 12.4%. Homeless population was 3.4%. Patients with hypertension were 36.1%, diabetes 15.2%, and asthma 4.6%.

Community Health Improvement Center (CHIC) – Decatur, IL
CHIC has EHR and is NCQA PCMH recognized. In 2014, it served 21,633 patients with 55% adults (18-64) and 42% children. 45% of its patient population is White and 58% belong to racial and/or ethnic minority group; 44.3% are African American and 11.2% are Hispanic/Latino. 97.3% of its patients are at or below 200% of poverty. 26.6% were uninsured, 17.1% were uninsured children (0-17), 61.3% were on Medicaid/CHIP, and 7.5% were on Medicare. CHIC has high percentage of hypertensive patients, which was 26.4% in 2013.
http://www.communityhealthimprovementcenter.org/

Esperanza Health Centers – Chicago, IL
Esperanza has EHR and is also NCQA PCMH recognized. In 2014, it served 17,241 patients, with majority of them being adults (18-64) followed by 40% of children. 98.9% of its patient population belong to racial and/or ethnic minority group, with majority (93.5%) being Hispanic/Latino. 19.8% of their patients were best served in a language other than English. 98.2% of its patients were at or below 200% of poverty. 29.5% were uninsured and 56.6% were on Medicaid. 4.4% of its patients were asthmatic in 2014.
http://www.esperanzachicago.org/

VNA Health Care – Aurora, IL
VNA has EHR and is PCMH certified. VNA serves close to 60,000 patients. 34.2% of its patients are children and 63% are adults (18-64 years). 83% of its patients belong to racial and/or ethnic minority, with 64% of Hispanic/Latino ethnicity, 14.2% African Americans, and 4% Asians. 23% of its patients are best served in a language other than English. 99.2% of its patients were at or below 200% of poverty. 42% were uninsured and 51% were on Medicaid/CHIP. In 2014, 10.8% of its patients were hypertensive and 8.5% diabetic.
http://www.vnahealth.com/
PATIENT SELF-ASSESSMENT FORM – ASTHMA

Patient name: ___________________________ Date: ___________________________

Since your last visit:

1. Has your asthma been any worse?  No _____ Yes _____

2. Have there been any changes in your home, work or school environment (such as a new pet or someone smoking)?  No _____ Yes _____

3. Have you had any times when your symptoms were worse than usual?  No _____ Yes _____

4. Has your asthma caused you to miss work or school or reduce or change your activities?  No _____ Yes _____

5. Have you had any emergency room visits or hospital stays for asthma?  No _____ Yes _____

6. Have you missed any regular doses of your medicines for any reason?  No _____ Yes _____

7. Have your medications caused you any problems (shakiness, nervousness, bad taste, sore throat, upset stomach)?  No _____ Yes _____

8. Please list the medications you currently take for asthma and how often you take each (more than once per day, once per day or less than once per day):

9. Do you need refills for any medication today?  No _____ Yes _____

In the past two weeks:

10. Have you had a cough, wheezing, shortness of breath or chest tightness during:
    the day?  No _____ Yes _____
    the night?  No _____ Yes _____
    exercise or play?  No _____ Yes _____

11. Do you have a peak flow meter?  No _____ Yes _____
    How often do you use it? _____ days per week
    What is your personal best?  # _____ or Don't know _____

12. How many days have you had to use your rescue inhaler?  _____ days

13. Have you been satisfied with the way your asthma has been?  No _____ Yes _____

14. What are some concerns or questions you would like to talk about during this visit?

Provider’s signature: ___________________________
# APPENDIX B – ASThma FORMS

## ASThma MANAGEMENT FLOW SHEET

### Patient name: ________________________________

**Environmental triggers: ________________________________**

**Date of last PPSV shot: ________________________________ Date of last flu shot: ________________________________**

<table>
<thead>
<tr>
<th>Date of visit</th>
<th># __________</th>
<th># __________</th>
<th># __________</th>
<th># __________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma severity</td>
<td>mild intermittent = 1</td>
<td># __________</td>
<td># __________</td>
<td># __________</td>
</tr>
<tr>
<td>Visit type</td>
<td>Acute / Maintenance</td>
<td>Acute / Maintenance</td>
<td>Acute / Maintenance</td>
<td>Acute / Maintenance</td>
</tr>
<tr>
<td>(circle one)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ED visits since last appointment?</td>
<td>Y / N # __________</td>
<td>Y / N # __________</td>
<td>Y / N # __________</td>
<td>Y / N # __________</td>
</tr>
<tr>
<td>Hospitalizations since last appointment?</td>
<td>Y / N # __________</td>
<td>Y / N # __________</td>
<td>Y / N # __________</td>
<td>Y / N # __________</td>
</tr>
<tr>
<td>Peak flow</td>
<td>Personal best:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Today:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication changes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General asthma info</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Inhaler use</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Environment/triggers</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Peak flow use</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Spacer use</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Reviewed asthma action plan</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Other</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Planned follow-up (months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse signature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provider signature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Family Practice Management**

### Appendix B – Asthma Forms

#### Asthma Severity

<table>
<thead>
<tr>
<th>Severity</th>
<th>Daytime symptoms</th>
<th>Nighttime symptoms</th>
<th>Lung function Peak expiratory flow rate (PEF) or forced expiratory volume (FEV1) (PEF is % of personal best; FEV1 is % predicted)</th>
<th>Long-term control - patients older than 5 years (See below for drugs and dosages; preferred treatment in bold)</th>
<th>Long-term control - children 5 years or younger (See below for drugs and dosages; preferred treatment in bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild intermittent</td>
<td>≤ 2 days/week Exacerbations are brief with varying intensity</td>
<td>≤ 2 nights/ month</td>
<td>≥ 80% predicted PEF or FEF25% ≤ 20%</td>
<td>No daily controller medication indicated. Monitor frequency of use of relief medications.¹</td>
<td>No daily controller medication indicated. Monitor frequency of use of relief medications.⁴</td>
</tr>
<tr>
<td>Mild persistent</td>
<td>&gt; 2 times/week but &lt; 1 time/day Exacerbations may affect activity</td>
<td>&gt; 2 nights/ month</td>
<td>≥ 80% predicted PEF or FEF25% 20%-30%</td>
<td>Low-dose inhaled corticosteroids Alternative treatment: cromolyn, leukotriene receptor antagonist (LTRA), nedocromil OR sustained release theophylline to serum concentration 5-15 mcg/mL</td>
<td>Low-dose inhaled corticosteroids Alternative treatment: cromolyn OR LTRA</td>
</tr>
<tr>
<td>Moderate persistent</td>
<td>Daily use of inhaled short-acting beta-agonist Exacerbations occur ≥ 2 times/ week and affect activity.</td>
<td>&gt; 1 night/week</td>
<td>≥61%-90% predicted PEF or FEF25% &gt; 30%</td>
<td>Low-to-medium-dose inhaled corticosteroids AND long-acting beta-agonist (LABA) Alternative treatment: Increase inhaled steroids within medium-dose range OR low to medium-dose inhaled corticosteroids and either LTRA or theophylline</td>
<td>Low-dose inhaled corticosteroids AND LABA OR medium-dose inhaled corticosteroids Alternative treatment: Low-dose inhaled corticosteroids and either LTRA or theophylline</td>
</tr>
<tr>
<td>Severe persistent</td>
<td>Continual Exacerbations are frequent and limit physical activity.</td>
<td>Frequent</td>
<td>≤ 60% predicted PEF or FEF25% &gt; 30%</td>
<td>High-dose inhaled corticosteroids AND LABA AND, if needed, corticosteroid tablets or syrup 2 mg/kg/day; generally do not exceed 60 mg/day</td>
<td>High-dose inhaled corticosteroids AND LABA AND, if needed, corticosteroid tablets or syrup 2 mg/kg/day; generally do not exceed 60 mg/day</td>
</tr>
</tbody>
</table>

#### Long-Term Therapy

<table>
<thead>
<tr>
<th>Drug</th>
<th>Low daily dose</th>
<th>Medium daily dose</th>
<th>High daily dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluticasone MDI: 44, 110 or 120 mcg/puff</td>
<td>98-264 mcg</td>
<td>88-176 mcg</td>
<td>264-660 mcg</td>
</tr>
<tr>
<td>Budesonide DPI: 200 mcg/inhalation</td>
<td>200-600 mcg</td>
<td>200-400 mcg</td>
<td>600-1200 mcg</td>
</tr>
<tr>
<td>Fluticasone/salmeterol DPI: 100, 250, 500 mcg/50 mcg</td>
<td>100-300 mcg (fluticasone)</td>
<td>100-200 mcg (fluticasone)</td>
<td>300-600 mcg (fluticasone)</td>
</tr>
</tbody>
</table>

Relative strengths: fluticasone > budesonide = beclomethasone > flunisolate = triamcinolone

Systemic bioavailability (contributes to side effects): 20% - triamcinolone, flunisolate and beclomethasone; 11% - budesonide; and 1% - fluticasone

Quick relief (patients older than 5 years): short-acting bronchodilator, 2-4 puffs as needed for symptoms, up to 3 treatments at a 20-minute interval, or a single nebulizer treatment as needed.

Quick relief (children 5 years or younger): short-acting inhaled beta-agonist by nebulizer or face mask and spacer/holding chamber; alternative treatment: oral beta-agonist.

* Use of short-acting beta-agonists > 2 times a week in intermittent asthma (or daily or increasing use in persistent asthma) may indicate a need for long-term therapy.