THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Colorado Beacon Community

*denotes desired data sources currently sought by Beacon team

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	***Interventions***	***Measures***	***Short-Term***	***Medium-Term***	***Longer-Term***
- EHRs - HIE - Provider assessment survey* - Patient assessment survey* - Administrative data sets from Rocky Mountain Health System - Hospital association data - Medicare and Medicaid data* - Community population health registry* - Quality Health Network (QHN) Registry - ADT data * - Pharmacy data*	- Patient-centered medical home (PCMH) - Population health registry-based management - Computerized clinical decision support (CDS) tools	- Care variation - ED visits - Hospitalizations - Readmissions - Use of appropriate medications for asthma patients - LDLs, blood pressure, A1c's for diabetes patients - NCQA Global Outcomes Value measure	- Launch provider learning collaborative sessions - Create Web site and other e-tools to support primary care practices and clinics building PCMHs	- Improve quality of care and outcomes measures from baseline by 50% - Reduce unnecessary ED visits in target patients by 2%–5% - Reduce unnecessary hospital admissions in target patients by 2%–5% - Increase communication of patient risk - Increase documentation of changes in care based on patient encounter	- Improve quality of care and outcomes for patients with asthma, diabetes, and cardiovascular disease - Reduce unnecessary utilization associated with target patients
- EHRs - HIE - Provider assessment survey* - Patient assessment survey* - Administrative data sets from Rocky Mountain Health System - Hospital association data - Medicare and Medicaid data* - Patient registry*	- PCMH - Population health registry-based management - CDS tools	- BMI and weight (to identify and monitor target population) - Mood tracking - Care variation - ED visits - Hospitalizations - Readmissions - Public Health Questionnaire (PHQ-9) score - NCQA Global Outcomes Value measure	- Launch provider learning collaborative sessions - Create Web site and other e-tools to support primary care practices and clinics building PCMHs	- Reduce health risks associated with obesity and depression - Improve rates of obesity and depression counseling - PHQ score documented and re-screening within 8 weeks for all target patients - Reduce unnecessary ED visits and hospital admissions in target patients by 2%–5% - Reduce readmissions within 30 days by 5% - Increase communication of patient risk - Increase documentation of changes in care based on patient encounter	- Improve quality of care and outcomes for patients with obesity (child and adults) and depression - Reduce unnecessary utilization associated with target patients
- Patient registry* - EHRs - HIE - Provider assessment survey* - Patient assessment survey*	- PCMH - Population health registry-based management - CDS tools	- Care variation - Population risk analysis - Breast cancer screening - ED visits - Hospitalizations - Readmissions	- Implement Archimedes IndoGO Tool to determine probability of chronic disease given patient risk factors	- Increase rates of preventative health screenings	- Improve the quality and impact of preventative health management
- Patient registry* - EHRs	- Population health registry-based management	- Vaccines administered in children		- Improve by 50% gap from baseline to NCQA 90% performance level - Increase vaccination rate to 75% for Combo 2 and 70%	- Increase rate of childhood immunizations
- Patient registry* - EHRs	- Population health registry-based management	- # people who smoke - # people who quit smoking - # smokers counseled		- Reduce smoking population - Increase quit ratio	- Reduce number of smokers in Beacon Community

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Crescent City Beacon Community, Louisiana

RESOURCES

Data Sources

-Patient focus groups/ satisfaction survey

-Provider focus groups/survey

- Data-sharing agreements

- Clinical practice EMR data

- Hospital EMR data

- US Census Bureau estimates (American Community Survey)

- All-payer claims data (desired; in developed by state HIE)

- CDC's Behavioral Risk Factor Surveillance System

- CDC's Youth Risk Behavior Surveillance System

- Louisiana Hospital Inpatient Discharge Database (LAHIDD/ ShareCorps – desired, not yet obtained)

- UCSF Quality Survey (pending funding)

STRATEGIES

Intervention

Chronic Care Management (CCM)

- Risk stratification of patients

- Care Managers' and Care Teams' Protocols

- Population-based Disease Registry

- Clinical Decision Support Systems

Transitions of Care (TOC)

- ED/IP Notification to medical homes

- Specialty Referral Coordination (PCP-Specialist-Hospital)

OUTPUTS

Measures

Count and percentage of:
- Active patients diagnosed with diabetes in CCBC primary care settings
- Active patients diagnosed with diabetes with elevated BP and/or LDL in primary care settings
- Patients/encounters of diabetics who had an up-to-date A1c (e.g. within 5 months) at time of provider visit
- Diabetic patients who were overdue for an A1c, who had an appointment, but didn't have their A1c
- Diabetic patients who were overdue for an A1c, who had an appointment, and received A1c test
- Patients with diabetes and CVD who have appropriate referrals to Care Manager
- Patients with diabetes referred for foot/eye exam
- Patients with diabetes and CVD who receive a Care Plan
- Diabetics on medications for BP and LDL (TBD which meds these are)
- Encounters for which medication reconciliation is required (e.g., TOC) and performed
- Encounters for which medication review/reconciliation is performed
- Encounters where medication side effects are documented
- Patients with diabetes and CVD with active medication allergy list
- Care Managers who used protocols by clinics overtime
- Clinics that shared protocols overtime

Count and percentage of Clinic staff trained in:
- Clinic staff trained in using HIT-enabled CDS tools for CCM
- Clinic staff trained in Registry using Risk Stratification for CCM
- Clinic staff trained in Care Plan and Medication management protocols

Count and percentage of CCBC primary care setting:
- Of diabetic patients who have a heart attack and/or stroke
- Of diabetic patients stratified according to level of CVD risk

Count and percentage of registry and risk-stratified patients diagnosed with diabetes with ages 18-75:
- Who received HbA1c testing
- With most recent HbA1c < 7% (in control)
- With most recent HbA1c > 9% (poor control)
- Who had blood pressure <130/80
- With most recent LDL-C < 100 mg/dL
- Who received urine protein screening/medical attention for nephropathy during at least one office visit in 12 mos
- Who received immunizations (i.e. Pneumovax/flu) within 12 months
- With a calculated BMI in the past six months
- With a diagnosis of CAD who were prescribed a lipid-lowering therapy (based on current ACC/AHA guidelines)
- With diagnosis of HF and LVSD (LVEF <40%) who were prescribed ACE inhibitor or ARE therapy
- With HF or chronic atrial fibrillation who were prescribed warfarin therapy

Count and percentage of:
- CCBC primary care settings that have electronic access to clinical information on patients' ED visits at the main hospital that affiliated providers' use
- Patients seen/encounters in ED with complete discharge documentation
- ED use rates for ambulatory care–sensitive conditions related to diabetes and/or CVD
- Rate of hospitalizations/rehospitalizations related to diabetes and/or CVD
- Patients with medical home
- Providers receiving clinical information, such as discharge summaries, in a timely manner for their patients who have been seen in the ED
- Patients (with a CCBC primary care setting) seen in the ED for whom an alert was sent to their primary care setting in a timely manner
- Patients who received timely follow-up at their primary care setting following an ED visit
- CCBC practices that have electronic access to outpatient reports from specialist physicians (i.e., referrals)
- PCPs receiving clinical information, such as test results, for their patients who received care at an alternate facility in a timely manner
- Patients for whom specialty results/clinical information is shared with a PCP in a timely manner
- Patients referred to a specialist
- Patients seen by a specialist

Count and average time:
- To next available appointment for specialty care services related to diabetes management
- From referral to appointment
- No-show rates for specialty care appointments related to diabetes and/or CVD

MILESTONES

Short-Term

- Improved provider knowledge and adherence to diabetes standards of care quality

- Increased proportion of community clinics using registries for population-level risk stratification for patients with diabetes at risk for CVD

- Increased provider knowledge of and utilization of CDS tools for Care Management of Diabetes

- Increased proportion of care managers/PharmDs reporting manageable caseloads

- Reporting of community-wide data around common quality measures related to diabetes and CVD

- Increased provider knowledge of and adherence to evidence-based referral protocols for specialty care related to diabetes management using HIT solutions

- Increased understanding of responsibilities for monitoring and tracking of follow-up appointments for patients discharged from an ED/hospital among clinic and hospital providers

- Identification of necessary data elements for exchange between hospitals

OUTCOMES

Medium-Term

- Increase in number of patients with diabetes receiving appropriate preventive care screenings

- Increased proportion of patients with diabetes receiving individualized care plans according to their level of CVD risk and needs

- Increased proportion of patients with diabetes receiving appropriate medications

- Increased proportion of patients with diabetes receiving treatment according to their level of CVD risk

- Increase in number of patients with appropriate referrals for specialty care

- Decreased no-show rates for specialty care appointments related to diabetes and/or CVD

- Decreased wait times for specialty care appointments related to diabetes and/or CVD

- Increase in proportion of patients with a medical home discharged from a hospital who receive follow-up appointments in a timely manner

- Decrease in the number of patients' with hospital readmissions related to diabetes and/or CVD

IMPACTS

Longer-Term

- Improved control and appropriate management of diabetic patients at-risk for CVD complications

- Reduced hospitalizations and ED visits for ambulatory care sensitive conditions related to diabetes and/or CVD

- Reduced outcome disparities for the underserved and vulnerable populations

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Delta BLUES Beacon Community, Mississippi

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	***Interventions***	***Measures***	***Short-Term***	***Medium-Term***	***Longer-Term***
- EHR data→ State HIE (2012) - State hospital discharge data (all payer types) - Medicaid hospital discharge data	- Hospital-based care transition coordinators - Computerized clinical decision support tools - Medication therapy management - Physician reporting and feedback - Diabetic retinopathy techs, diabetes education, and eye cameras in ambulatory settings	- A1c screening rate - Number of diabetics with uncontrolled A1c - Number of diabetics with uncontrolled blood pressure - Blood pressure screening rate - Microalbumin screening rate - Number of diabetics with uncontrolled LDL - Screening rate for diabetes retinopathy - Foot exam screening rate - BMI screening rate - Medication adherence rate - Diabetes rate - Preventable hospital admissions - Preventable ER visits - Preventable hospital readmissions	- Reduced 30-day hospital readmission rate - Increased medication adherence - Increased health literacy for diabetic patients - Increase in referral rate for screenings - Increased knowledge of self-care measures for diabetes - Increased number of primary care medical homes - Increased attendance of patients at 30-day follow-up visits after hospital discharge in ambulatory setting - Increased number of diabetic patients discharged from hospital with a discharge plan - Increased number of providers who utilize care management reports to transform practice - Increased number of providers who utilize clinical decision support - Increased number of providers who utilize EHR	- Reduction in A1c levels - Reduction in blood pressure - Reduction in LDL - Increase screening rates for retina (to 60%), kidney, foot exams (to 65%) blood pressure and A1c - Reduced hospital admissions and visits to the ER - Reduced BMI	- Improved chronic care for diabetic patients - Improved access to care through EHR, HIE, telemedicine and other forms of HIT - Reduce excess health care costs through unnecessary hospital admissions and visits to the ER - Maximized adherence to prescribed medications for diabetic patients

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Greater Cincinnati Beacon Community, Ohio

*denotes desired data sources currently sought by Beacon team

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	***Interventions***	***Measures***	***Short-Term (process)***	***Medium-Term (by end of Beacon)***	***Longer-Term (beyond Beacon)***
Diabetes - EHR data feeds - HealthBridge data (various) - Manual data entry into registry -Deep-dive, chart sampling - Claims data (desired)	- Implement and support patient-centered medical home (PCMH) processes for sustainable practice transformation -Implement QI science, including use of data for decision-making - Physician data reporting and performance feedback - Computerized clinical decision support tools (ED and admissions) -Use of BTS model to structure collaborative learning	Diabetes, ages 18–75 - D5 composite ~ A1c ~ LDL ~ Blood pressure ~ Use of aspirin or other antithrombotic ~ # self-identified smokers - ED utilization - Hospital admissions - Hospital readmissions - Overall annual total care costs	-Quality improvement training for practices - Regular reporting of measures to practices -On-site coaching of practices	- Improve optimal diabetes care by 5 percentage points from baseline - Improve smoking cessation 5% from baseline - Reduce ED visits for diabetics by 15% - Reduce 30-day readmissions for diabetics by 20% - Reduce overall annual cost by 10%	- Improve management of adult diabetes - Reduce overall cost of care of adult diabetics
Asthma - Children's admission and ED data - EHR data feeds - PHO registry - Physician and parent assessments and interviews - HealthBridge data (dependent on hospitals feeding data) - *Medicaid enrollment and claims desired - *Pharma data desired - *Commercial claims data desired	- Physician data reporting and performance feedback - Care coordinators in ambulatory Physician practices - Computerized clinical decision support tools - Medication management	- Parent and physician assessed symptom control in target PHO and Medicaid populations - Flu vaccine rates - ED visits - Hospitalizations - Readmissions	- All PHO PCPs will have care coordinators trained - 200% increase in high-risk Medicaid patients receiving care coordination	-Asthma admission rates: Medicaid pop. 20% reduction; PHOpop. 60% lower than comparison - ED/urgent care rates: Medicaid pop. 20% reduction; PHO pop. 55% lower than comparison - Readmission rates: <5% for Medicaid pop.; 15% lower than baseline for PHO pop. - Symptom control in 60% of Medicaid pop. and 80% of PHO pop. - Improve flu vaccine rate to 75% vaccinated in Medicaid pop. and 80% in PHO pop.	- Improve outcomes for pediatric asthma - Reduce unnecessary or preventable service utilization associated with pediatric asthma
Practice Use of HIT - REC data - HealthBridge physician data - NPI (National Provider Identifier) database	- EHR adoption - HIE expansion - Community registry - Enhanced care coordination	- Total number of hospitals and practices (sites) - Certified EHR in use - Connected to HealthBridge	- Implement secure connection to HealthBridge - ED/Admission notifications	- 60% of acute care hospitals and physicians have implemented a certified EHR and connected securely to HealthBridge by 12/2012	- Facilitate community achievement of meaningful use - Access to fully populated repository - Information exchange between providers - IT-enabled clinical interventions (e.g. shared care plans) - Repository able to be used for QI - More powerful automated notification system

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Hawaii County Beacon Community

*denotes desired data sources currently sought by Beacon team

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	*Interventions*	*Measures*	*Short-Term*	*Medium-Term*	*Longer-Term*
- HIE* - EHRs (hospitals and practices) - Patient registries - Hawaii Health Information Corporation	- Specialty practice redesign (includes Behavioral health) - Care coordination Redesign	- ER visits - Hospitalizations - # same-day primary care appointments - Wait times for specialty and behavioral consults - # off-Island consults - # on-Island specialty procedures	- Launch health information exchange (HIE) - Develop/implement Community Engagement Plan - Implement care coordination model - Launch specialty care initiative	- 10%–15% more same-day primary care appointments - 15% decrease in wait times for specialty (within 2 weeks) and behavioral (within 1 week) consult - 5%–10% decrease in off Hawaii Island consults - 5%–10% increase in specialty procedures on Hawaii Island - % decrease preventable hospitalizations and ER visits	- Improve access to primary care, specialty care, and behavioral care services - Reduce preventable or inappropriate utilization - Reduce health disparities for Native Hawaiians (NH) and other populations at risk
- HIE* - EHRs (hospitals and practices) - Patient registries	- Online health care services promoted via community education - Standardization of evidence based protocols (Wellogic) - Care coordination redesign - Specialty practice redesign - Community engagement	- # patients achieving 9 Diabetes Management Bundle (DMB) and Adult Prevention Bundle (APB) measures - Blood pressure - Lipid screens - BMI in children - # identified Native Hawaiians - # Native Hawaiians screened for chronic diseases - Above measures by ethnicity - # NH given chronic disease education	- Develop QI reports/ registries for providers - Develop and implement Disparity Reduction Plan as part of care coordination - 35 measures with island-wide disparity reporting - Launch HIE Pilots	- 8x baseline meeting all 9 DMB and APB measures - 90% of patients meeting each DMB and APB goal - 90% patients controlling high blood pressure - % increase patients controlling hyperlipidemia - % increase children with recorded BMI - 80% HIE- identified NH - 35,000 NH screened - 1,000 NH receiving chronic disease education	- Avert onset and advancement of diabetes, hypertension, and hyperlipidemia for entire community - Reduce health disparities for Native Hawaiians (NH) and other populations at risk
- HIE* - EHRs (hospitals and practices) - Patient registries - Regional Extension Center data	- Develop and implement Meaningful Use Plan - CME's regarding MU - REC collaboration - Provider outreach	- # Big Island primary care providers meeting meaningful-use requirements	- Establish HIT foundation, Connected Health Community (HIE) - REC Collaboration Agreement - Implement Big Island MU Support Team	- 60% of primary care providers achieve meaningful use by March 31, 2013	- Increase meaningful use among Big Island primary care providers

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Rhode Island Beacon Community

*denotes desired data sources currently being sought by Beacon team

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	***Interventions****	***Measures***	***Short-Term***	***Medium-Term******	***Longer-Term***
- Patient-centered medical home (PCMH) measures, numerators and denominators reported by PCMH programs - Beacon measures, numerators and denominators reported by individual Beacon practices - Quality Measure Reporting Database (also provides practice characteristics and general information regarding patient panels* - Statewide HIE*	**Beacon Projects:** - EHR aggregation - HIE enrollment - Targeted long-term care HIE roll-out - Payer claims data extract analysis - Continuity of Care Plus - PCP specialist communication - Quality reporting and registry	**Beacon Quality Measures:** - Blood pressure control in patients with diabetes - Lipid (LDL) control in patients with diabetes - HbA1c control in patients with diabetes - Cessation intervention for tobacco users - Depression screening in Beacon population	- Quality Measure and Measure Definition Harmonization - Implement PCP-Specialist point-to-point communications via NHIN Direct - Link long-term care facilities with HIE - Implement Quality Measure Reporting Database for data-driven quality improvement through comparative data and collaborative learning - Demonstrate CoC Plus use in Beacon practice and medical facility	**Beacon Quality Measure Targets:** - Reduce % of diabetic patients with poorly controlled disease to 20% - Increase % of diabetic patients with well controlled blood pressure to over 40% - Increase % diabetic patients with well controlled LDL to 50% - Increase % patients screened for depression to 60% - Increase % of tobacco users receiving cessation intervention to 75%	**Beacon Aims** - Enhance the quality of care provided to patients with diabetes - Reduce the impact of tobacco use on the health of the population of Rhode Island - Reduce the impact of undiagnosed and untreated depression through increased screening
- Hospital discharge database from RI Dept of Health (RI DOH) - Statewide HIE* - Payer claims data extract from each of the RI payers (a near-term alternative to the RI DOH-mandated All-Payers Claim Database*	**Beacon Projects:** - Provider notification - Continuity of Care Plus - Care transitions - Payer claims data extract analysis - HIE enrollment	**Beacon Hospital and ED Utilization Measures, Beacon Population *and* Statewide:** - Overall # of hospital admissions and ED visits - Overall 30-day hospital readmission rate - Hospital admission rate for patients with ambulatory care–sensitive (ACS) conditions - # ED visits for patients with ACS conditions	- Use of care transition coaches based in PCP office - Use HIE to trigger direct message to PCP during inpatient/ outpatient transition - Implement Quality Measures/Utilization Reporting Database - Demonstrate CoC Plus use in Beacon practice and medical facility - Obtain payer claims data extracts and/or reports from each of RI payers	**Beacon Utilization Measure Targets** - Reduce all hospitalizations and ED visits by 6% - Reduce 30-day hospital readmissions by 12% - Reduce ACS-related admissions by12% - Reduce ACS-related ED visits by 12%	**Beacon Aims** - Decrease overall health care costs by reducing preventable hospital and emergency department use

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
San Diego Beacon Community, California

*denotes desired data sources currently sought by Beacon team

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	*Interventions*	*Measures*	*Short-Term*	*Medium-Term*	*Longer-Term*
- Provider admissions, discharges, transfers via ADTs or similar* - Billing* - Calif. Office of Statewide Health Planning and Development (OSHPD)	- Comm d/c checklist (BOOST/RED) - HIE w/provider messaging/active querying pre-patient visit	- 30-day all-cause readmission rate - 30-day all-cause ED visit rate - 30-day all-cause EMS contact rate	- Intervention developed for UCSD/VA and implemented by Q3 2011	- Reduce readmission 10% by April 1, 2013 - Reduce ED visit rate 10% by April 1, 2013 - Reduce EMS contact rate 10% by April 1, 2013	- Improve care transition for patients after inpatient or ED care - Reduce expenditures from readmissions and ED visits
- Radiology scheduling information (possibly ADTs)* - Billing* - Medicare - MediCal*	- Make available diagnostic quality radiology films to providers participating in the San Diego HIE	- CT/MRI studies of head, chest, abdomen within 7 and 30 days of original study	- Interventions developed and implemented by Q3 2012	- Reduce repeat CT of head, chest, and abdomen (within 7 and 30 days of original study) by 10% by April 1, 2013	- Reduce repeat radiology testing for patients across San Diego Collaborative - Reduce expenditures on repeat testing and associated visits/calls
- County STEMI database for community-wide and specific facility measures - Specific cardiac catheter lab data for facility specific measures* - Cardiac catheter lab activation costs*	- Develop an interface between Emergency Medical Services and the San Diego STEMI Receiving Hospitals that includes patient medical history, medications, allergies and latest electrocardiogram	- Patients with myocardial infarction receiving cardiac intervention within 75 minutes of EMS arrival on scene (field-to-intervention time) - Cardiac catheterization lab activation (True vs. false-positive)	- Intervention developed and implemented by Q3 2011 for UCSD base station - Base station intervention implemented community-wide by Q4 2011	- 90% of patients with EKG evidence of an acute myocardial infarction have a cardiac intervention performed within 75 minutes of EMS arrive on scene (field-to-intervention time) - Reduce false-positive cardiac catheterization lab activation rates by 50% (20% to 10%) by April 1, 2013	- Improve the management of acute chest pain prior and during hospitalization among patients initially seen by EMS and subsequently treated at a San Diego inpatient treatment facility - Reduce expenditures from false-positive lab activations
- San Diego Immunization Registry - Provider records from HIE*	- Clinical decision provider support - Text message reminders for parents of kids < 2 years old	- Vaccinations administered	- Interventions developed and implemented by Q4 2011	- 80% of kids get all recommended vaccinations by age 2 years by April 1, 2013	- Increase rate of childhood immunizations

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Southeastern Minnesota Beacon Community (Asthma)

*denotes desired data sources currently sought by Beacon team

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	***Interventions***	***Measures***	***Short-Term***	***Medium-Term***	***Longer-Term***
- Focus groups - Surveys (parents, providers, schools)* - School records (absenteeism, asthma action plans in place)	- Computerized clinical decision support tools (asthma action plan [AAP]) - Patient portal	- # missed school days (all-cause) - # asthma action plans in schools - # times school calls a health professional	- Use asthma action plans to coordinate schools, day cares, clinics, and hospitals for childhood and adolescent asthma action plans	- Increase AAPs in area schools to 40% of students with asthma in the 1st year and 90% in the 2nd year - Reduce school absenteeism by 10% - Increase to 40% in 1st year and 90% in 2nd year availability of AAPs to students - Increase to 90% children's and parents' understanding of action plan	- Improve patient engagement, self-management and use of action plans - Reduce school days lost
- School health records	- Clinical decision support tools (asthma action plans)	- # children with Asthma Apgar administered one or more times in school year	- Implement and educate school nursing personnel about the Asthma Apgar test	- Improve children's and parents' reported normal functioning by 10% above baseline - Increase to 90% patients assessed annually for symptom control - Improve medication compliance by 10% - Increase knowledge of asthma triggers to 40%	- Improve resources available to schools for assessing and managing asthma
- Focus groups - Rochester Epidemiology Project (claims data) - Surveys (parents, providers, schools)* - School records (absenteeism, asthma action plans in place)	- Clinical decision support tools (asthma action plans) - Telemedicine	- ED visits - Urgent care visits - Minute Clinic visits - Inflation-adjusted total cost of care per patient	- Develop guidelines for when schools should notify health professionals	- Reduce ED and urgent care visits by 10% - Reduce disparities in care gap by 10% - Reduce inflation-adjusted total cost of care per patient by 5% - Increase # times school initiate calls with health professionals	- Reduce costs associated with childhood and adolescent asthma - Reduce outcome disparities for rural communities compared to Rochester by identifying gaps in care
- Rochester Epidemiology Project (claims data) - Minnesota Immunization Registry*	-Clinical decision support tools	- % school-age children with asthma who receive immunization for flu	- Develop data exchange for retail pharmacies and other flu vaccine sites to decrease info gap in flu completion rates - Develop and implement tools to alert health professionals to vaccine needs	- Increase rate of influenza immunization in childhood and adolescents by 10%	- Improve the rate of influenza immunizations for patients with asthma

THE LOGIC FOR EVALUATING THE IMPACT OF THE BEACON COMMUNITY PROGRAMS
Southern Piedmont, North Carolina

*denotes desired data sources currently sought by Beacon team

RESOURCES	STRATEGIES	OUTPUTS	MILESTONES	OUTCOMES	IMPACTS
Data Sources	***Interventions***	***Measures***	***Short-Term***	***Medium-Term***	***Longer-Term***
- R. Stuart Dickson Institute for Health Studies databases - Carolina Health System clinical and claims data - Novant Health System clinical and claims data* - Community Care of North Carolina (CCNC) hospital and admissions/discharges/transfer data (Rowan Regional Medical Center) - Manual medical record abstraction for community ambulatory practices without EMRs.	- Patient-centered medical home - Care managers in ambulatory physician practices - Medication therapy management - Computerized clinical decision support - Referrals management and communication strategy - Asthmapolis - Voxiva - Virtual Patient Advocate “Louise”	- HbA1c - Lipid screening - ED visits - Hospital admissions - Patient satisfaction - Patient knowledge activation		- HbA1c <9 for 85% of targets - Lipid screens in all at-risk patients - Reduce pediatric asthma ED visits and admissions by 25%	- Improve care management and medication adherence for adult patients with chronic disease (diabetes and congestive heart failure) and childhood asthma
- R. Stuart Dickson Institute for Health Studies databases - Carolina Health System clinical and claims data - Novant Health System clinical and claims data*	- Patient-centered medical home - Care managers in ambulatory physician practices - Hospital transition program - “Louise”	- All-cause admissions/ readmissions - Imaging utilization - Readmission Risk Assessment Tool results - Time/cost per patient/ clinical action - Cost of patient time		- Reduce preventable all-cause readmissions - Reduce costs associated with redundant or unnecessary imaging tests	- Reduce unnecessary hospital and imaging utilization
- R. Stuart Dickson Institute for Health Studies databases - Carolina Health System clinical and claims data - Novant Health System clinical and claims data* - CCNC	- Computerized clinical decision support	- Rate of colorectal cancer screening - Rate of age/risk appropriate mammogram screenings in female Medicaid population - Patient satisfaction - Patient knowledge		- Increased appropriate rate of screening for colorectal cancer, Pap smears, and mammograms in target populations	- Improve early detection, specifically: rates of colorectal cancer screening, Pap smears, and rates of female Medicaid enrollees receiving annual age/risk appropriate mammogram
- R. Stuart Dickson Institute for Health Studies databases - Carolina Health System clinical and claims data - Novant clinical/claims data* - CCNC	- Computerized Clinical Decision Support	- Smoking cessation counseling rates - Patient satisfaction - Patient knowledge		- Increase rate of smoking cessation counseling in target populations	- Reduce smoking population - Increase quit ratio