



# **BCBSM Physician Group Incentive Program 2012 Program Year**

## **Cardiac Care Initiative: Phase I (Utilization)**

### **Initiative Plan**

## **I. Initiative Overview**

The Blue Cross Blue Shield of Michigan (BCBSM) Cardiac Care Initiative (CCI) is one of many initiatives of the Physician Group Incentive Program (PGIP). Since its inception in 2005, PGIP has supported and facilitated practice transformation using a wide variety of initiatives to reward physician organizations (POs) for improved performance in health care delivery. As of September 2011, PGIP includes 40 POs from across the state of Michigan, representing nearly 15,000 primary care and specialty physicians who are members of the BCBSM TRUST PPO and/or Traditional Networks. These physicians provide care to nearly two million BCBSM members.

BCBSM's Physician Group Incentive Program encourages all payer collaboration, catalyzing all payer system development, rather than payer-specific system development. Through PGIP, BCBSM is helping to improve the quality of care for all Michigan residents. Patients throughout the state, regardless of payer, benefit from the improved care processes developed through the PGIP provider community. Developing systems of care which are used for all patients helps assure that providers do not have to alter care processes based on whether patients have insurance, or which insurance they have. This is an important factor in ensuring that the best practices and care processes are reliably provided to all patients, all of the time. This all-payer approach to practice transformation is good for patients with coverage from BCBSM and BCN and helps further BCBSM's social mission of cultivating a healthier future for all Michigan residents.

The CCI consists of three phases. Phase I is designed to reduce the use of unnecessary cardiac diagnostic procedures and limit the associated cost trend. Phase II is designed to enhance the quality of ambulatory cardiac care provided to BCBSM members. The first two phases of the CCI complement and build upon the goals of two other current PGIP initiatives - the Radiology Initiative and the Evidence Based Care Report (EBCR). POs participating in the CCI must participate in all phases of the Initiative. Phases I and II were rolled out in the 2011 program year. Phase III addresses the diagnostic/therapeutic cascade in cardiac care and will begin in 2012.

### **Goals and Objectives**

The goals of Phase I of the CCI are to:

- Reduce the inappropriate use of diagnostic cardiac procedures
- Reduce the variation in PMPM cost and use of diagnostic cardiac procedures among physician organizations (POs) in the PGIP program
- Substitute lower cost/lower intensity diagnostic procedures for higher cost/higher intensity procedures, when possible.

The objectives are to:

- Reduce the overall PMPM standard cost and use of diagnostic cardiac procedures
- Decrease PO PMPM standard cost and use rates towards the benchmark.

### **Summary of Results**

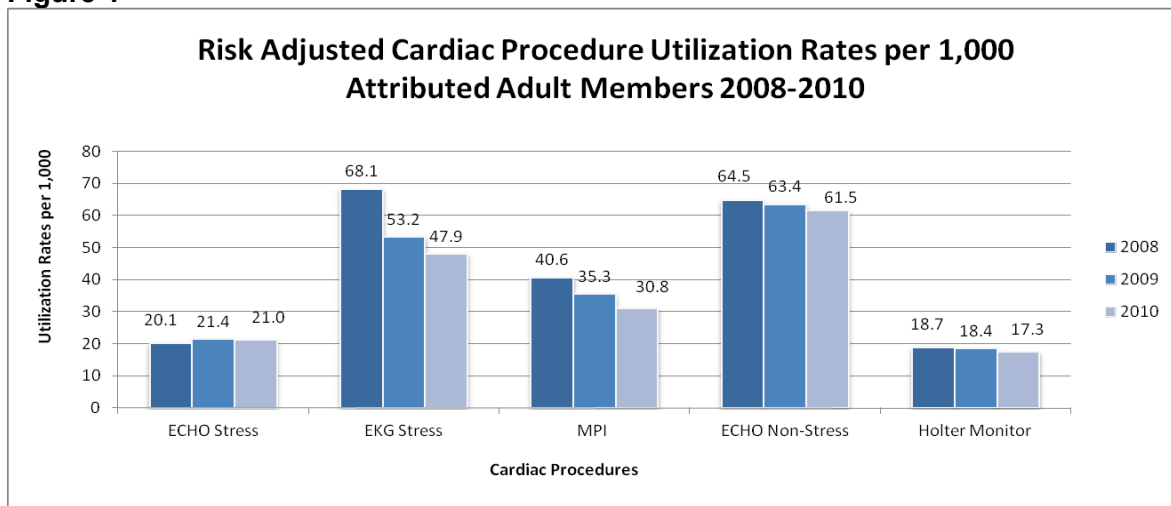
Almost half of the PGIP POs - 18 of 39 - participated in the CCI in the first year. The POs that have chosen to participate in the CCI represent 2,565 PCPs - 47% of the PGIP total - and

provide care to 710,749 attributed BCBSM members – 46% of the total PGIP members. See note:

The overall rate of cardiac diagnostic procedures has declined by 22% from 2008 to 2010. This decline started prior to implementation of the CCI and is consistent with observed decreases in the most recent literature. This finding is generally consistent with the preliminary data analyses for Phase III of the CCI, which have demonstrated a reduction in rates of diagnostic procedures and percutaneous coronary intervention (PCI), a therapeutic procedure.

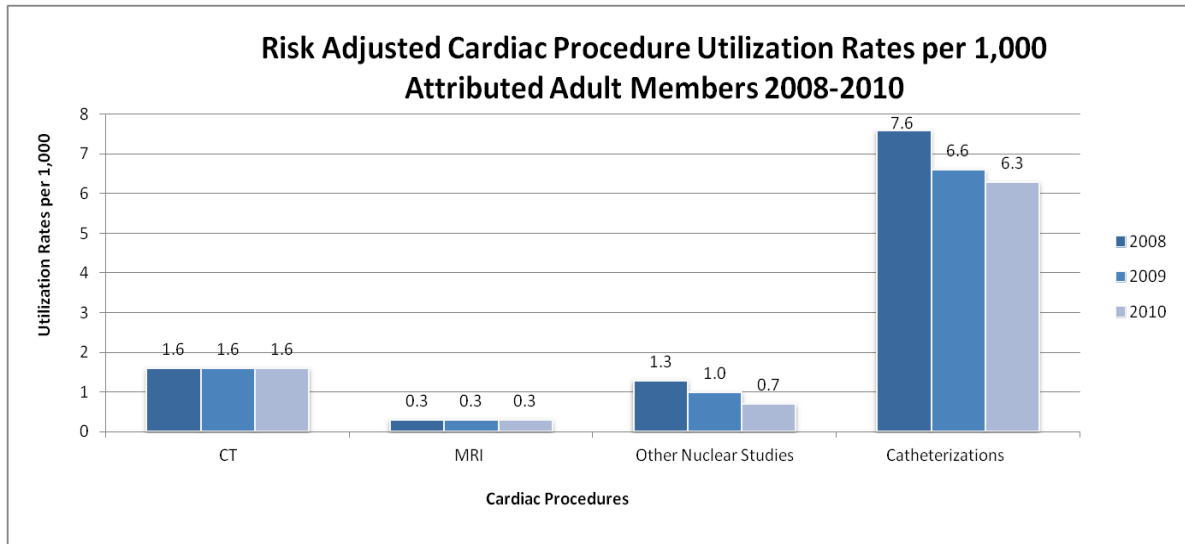
The 2010 rates represent baseline results since the CCI started officially in 2011. In 2010, EKG (non-stress, non-Holter) was the most common cardiac test by far, with an average risk-adjusted rate of 311.3 per 1,000. The second most common test was stress echocardiogram, with an average risk-adjusted utilization rate of 61.5 per 1,000. As shown in Figures 1 and 2 below, the utilization rates for most cardiac procedures decreased from 2008 to 2010; the rates for the least common procedures - CT and MRI - were static over the same period. (EKG non-stress, non-Holter procedures are not included in the figures below.)

**Figure 1**



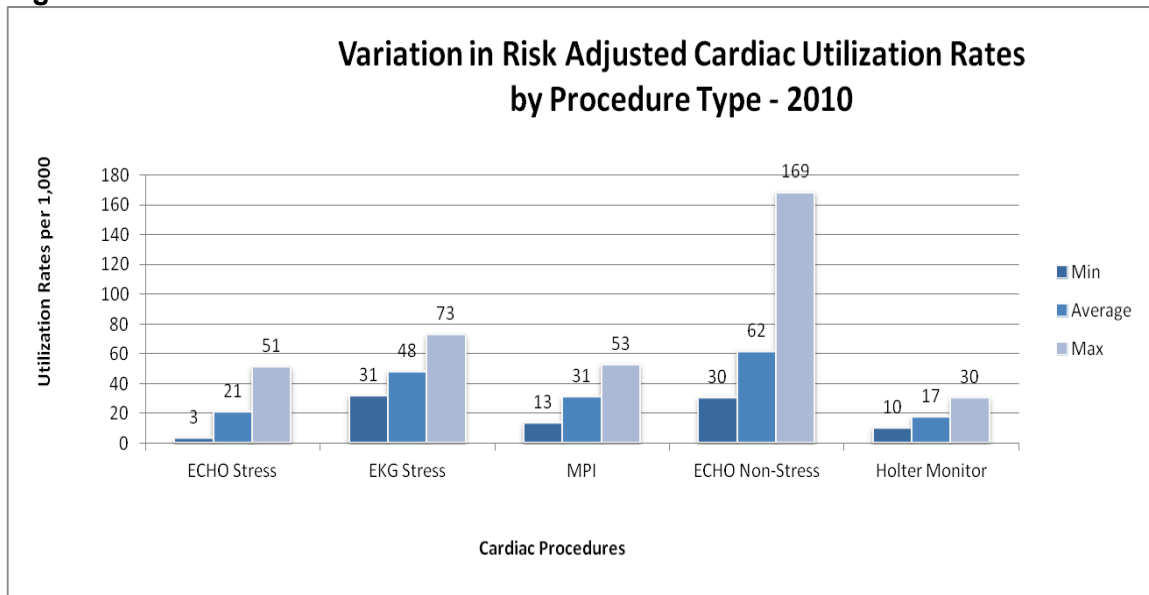
**Figure 2**

Note: The CCI has experienced by some challenges that have impacted efforts to fully evaluate performance results. The first cardiac utilization dashboard – with data for calendar years 2006-2008 – was released in February 2010, prior to implementation of the CCI in 2011. Following the initial dashboard release, staff received comments from subject matter experts and POs recommending changes to the clinical categorization and coding in the dashboard. A revised utilization dashboard – with new codes and clinical categories – was released in March 2011 for calendar years 2008 and 2009, incorporating this feedback with a routine dashboard delivered in May 2011, which provided paid claims data for calendar year 2010. Because of the methodology change, one cannot accurately compare the dashboards released in 2011 to the dashboard released in 2010. Further, the procedure codes for cardiac diagnostic services have changed significantly over the past few years. BCBSM's standard cost methodology is based on an older code set and the new codes do not have an assigned standard cost and is now being updated to include all potential codes. As a result, the 2008, 2009 and 2010 dashboards understate overall and some service-specific standard cost, with the problem increasing in severity each year as new codes were introduced. Because the dashboards understate standard cost, performance metrics can be calculated only for utilization rates. Finally, the defibrillator codes were not updated with new codes and the 2011 dashboards show no utilization (or related cost) for this service category.

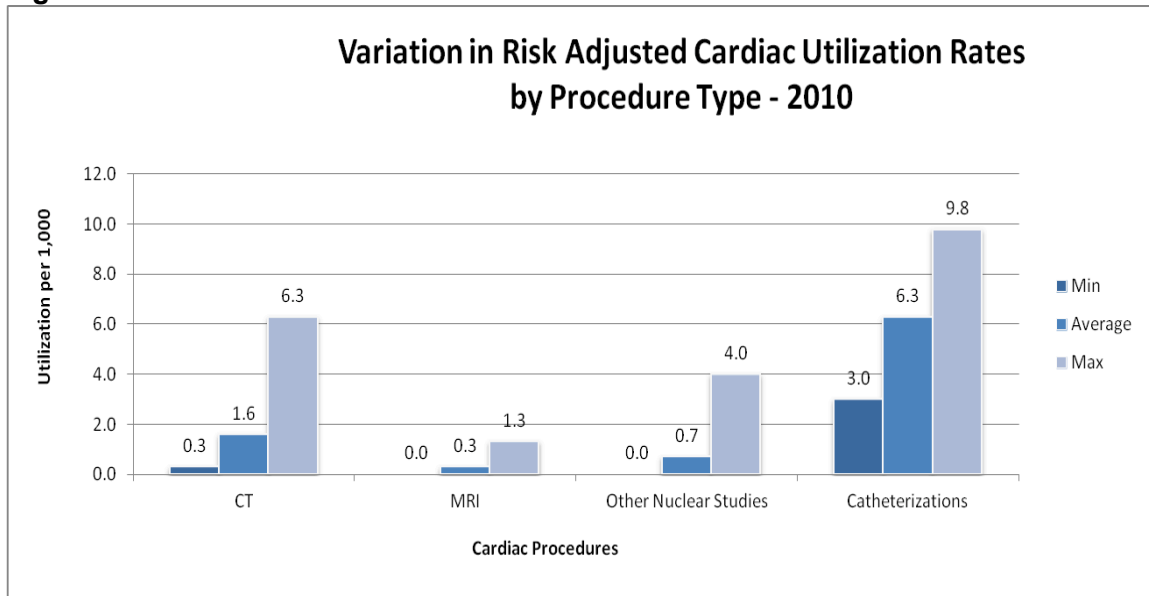


The rates of diagnostic tests were declining even before formal implementation of the CCI in 2011, yet there are two important reasons to continue an Initiative designed to reduce procedure rates. First, and most importantly, there is a high degree of regional variation in the rates of cardiac diagnostic testing throughout the country and in Michigan, and significant variation in utilization rates among the PGIP POs, as demonstrated in Figures 3 and 4 below. The CCI can continue to add value in reducing this variation among the PGIP POs.

**Figure 3**



**Figure 4**



Second, there is no comparable national data by which to benchmark performance by procedure type. In 2008, the “benchmark” POs (as defined by BCBSM) had risk-adjusted utilization rates lower than 474.4 per 1,000 members and the average performance was 544.8 per 1,000. By 2010, the BCBSM “benchmark” POs had risk-adjusted utilization rates lower than 394.3 per 1,000 members and the average performance was 501.1 per 1,000. However, due to the lack of national data, it is not yet possible to determine if BCBSM rates have declined to an optimal level.

The POs participating in the CCI were required to submit action plans with measurable objectives in addition to the regular May Progress Report. Although a portion of the July incentive payment was related to submission of the action plan, three of the 18 participating plans (17%) failed to submit an action plan. Almost all of the POs that submitted an action plan identified an Initiative lead, a clinical lead, and a data lead.

Although POs were provided with a possible template for the action plan, and educated on the intent of the plan via a Webinar, the format and content of the action plans was left to the discretion of the PO. As a result, many of the action plans had sparse detail and no clear focus. It was challenging to compare the action plans, identify common themes and evaluate progress and involvement because the plans varied substantially in detail, format and utility.

After reviewing and analyzing the action plans, PGIP staff recommends discontinuing submission of an action plan, but expanding the progress report to include more detailed, specific questions. The Progress Report format yields a more consistent representation of the POs’ participation in the CCI, assures that the POs address specific issues of interest and makes it easier for PGIP staff to analyze and compare PO performance. The Progress Report allows the POs to communicate their focus areas as well as their specific implementation steps for each chosen area in a single, organized format. PGIP staff can understand how the POs are addressing each selected focus area and identify common and unique strategies used by the POs.

(Please refer to appendix IV – PGIP Cardiac Care Initiative Progress Report/ Action Plan – for the list of CCI-specific questions to be included in the November 2011 and 2012 progress reports.)

The Progress Report completed by the POs in the second quarter of 2011 included a question regarding the focus areas selected by POs participating in Phase I of the CCI. The majority of POs (56%) chose to focus on nuclear studies, and 33% of the POs chose to focus on EKGs, echocardiograms and catheterization. Fewer POs chose to focus on CT (22%) and 17% of the POs focused on MRI, Holter monitor and electrophysiologic tests.

A comparison of the selected Phase I focus areas in the progress report to the 2010 CCI dashboard results indicates that the POs that are performing the worst – those with the highest utilization rates for each of the procedures – are focusing on the opportunities for improvement showcased in the dashboard only about 33% of the time. In the future, POs need examine their dashboards in greater detail to identify the areas that appear to be opportunities for improvement.

During program year 2012, PGIP will continue to engage participating POs in their efforts to implement the tasks associated with the CCI, offering assistance and support as needed. In 2012, additional analysis of cardiac procedure utilization rates and quality measures will be completed.

## **II. Background**

### **Health Problem and Significance**

Although death rates due to cardiovascular disease (CVD) have been declining since the peak in 1968, CVD remains the leading cause of death in the United States, accounting for approximately one-third or 36% of deaths of the 2.4 million deaths in 2007.<sup>i, ii, 3</sup> On average, 2200 Americans die of CVD each day, an average of 1 death every 39 seconds.<sup>i</sup> Approximately 82.6 million persons in the United States had CVD in 2007 and approximately 16.3 million had coronary artery disease (CAD).<sup>2</sup> Although CAD accounted for approximately 20% of all CVD, CAD resulted in about half of the CVD deaths (and 17% of all deaths) in 2007.<sup>1</sup> A new study by the American Heart Association (AHA) projects that by 2030, 40.5% of Americans – 116 million people – will have some form of CVD.<sup>4</sup> This projection is attributed in part to aging of the population.

The burden of CVD is particularly high in Michigan, with rates of 289.8 deaths per 100,000 compared to the US rate of 261.2 deaths per 100,000.<sup>i</sup> Michigan has the 8th highest death rate nationally due to CVD and the 5th highest death rate due to CAD.<sup>i</sup> The estimated prevalence of angina/CAD in Michigan is equal to that of the nation – 4.4% – but the estimated prevalence of myocardial infarction (generally due to CVD), at 4.5%, is higher than the 4.0% national rate.<sup>iv</sup> The Michigan Department of Community Health expects the burden of CVD to increase in future years due to aging of the population and the high prevalence of CVD risk factors (i.e., smoking, high blood pressure, obesity and diabetes) in Michigan.<sup>iii</sup>

Despite the decline in national death rates due to CVD, the costs of CVD-related care are increasing. In fact, CVD ranks as the most costly disease in the nation and the AHA reports that CVD is responsible for 17% of national health expenditures.<sup>iv</sup> The AHA estimates that \$177 billion will be spent in 2010 in direct and indirect costs associated with CAD.<sup>1</sup> The Michigan

Department of Community Health estimates that the U.S. will spend \$503.2 billion on CVD nationally and \$16.8 billion in Michigan in 2010.<sup>v,vi</sup> The AHA estimates that “between 2010 and 2030, total direct medical costs of CVD are projected to triple, from \$273 billion to \$818 billion. Real indirect costs - due to lost productivity - for all forms of CVD are estimated to increase from \$172 billion in 2010 to \$276 billion in 2030, an increase of more than 60 percent. The combined costs are projected to exceed \$1 trillion by 2030.”<sup>iv</sup>

Studies document a steep escalation in the use of diagnostic imaging disproportionate to the growth in overall health care over the past 20 years. Research reveals substantial regional variability in the patterns of use of diagnostic and treatment modalities. This suggests that some cardiac-related diagnostic services may be overused or misused. In addition, it raises concerns about excessive exposure to radiation, and points to the need to halt the unsustainable rise in health care costs.

Over the past 15 years, a major contributing factor to the high and increasing costs associated with CVD and CAD has been the steep escalation in the use of diagnostic imaging, particularly advanced imaging. The growth in the use and cost of diagnostic imaging – which peaked in 2006 – is well documented. From 1996 to 2002, the number of cardiac imaging procedures performed on behalf of Medicare beneficiaries grew 9% per year.<sup>vii</sup> In 2002, more than one cardiac imaging test was ordered - on average - for every four Medicare beneficiaries.<sup>vii</sup> More beneficiaries used imaging services in 2006 than in 2000 and the average use per beneficiary was higher. The U.S. Government Accountability Office (GAO) reported that Medicare spending for invasive and non-invasive imaging services (for all indications) was approximately \$14 billion in 2006, more than double the cost in 2000. The cost of high-tech imaging, such as MRI, CT, and PET, increased much faster than the cost of low-tech services, such as X-ray and ultrasound.<sup>viii</sup>

In the past few years, the rate of increase in cardiac diagnostic and therapeutic procedures appears to have slowed, and for some procedures has declined. The growth of Medicare imaging volume began to slow in 2006, with implementation of Medicare payment changes introduced by the Deficit Reduction Act (DRA) of 2005. However, the rate of imaging volume continued to grow at a rate of 6.2% from 2005-2006, 3.8% from 2006-2007, and 3.3% from 2007-2008.<sup>ix, x, xi</sup> From 2008-2009, the volume of cardiovascular stress tests for Medicare members fell, attributed to a 3.5% decline in nuclear medicine studies.<sup>xii</sup> Nationally, for all types of payers, the number of inpatient cardiac catheterization procedures rose dramatically from 1979-2000, but declined slightly in subsequent years until 2007 (the latest year for which the data was available).

MedPAC's 2005 Report to the Congress states, "The rapid growth in Medicare spending for imaging services raises questions about whether these services are always used appropriately. Perhaps the most significant reason to be concerned about potential overuse of imaging services is the threefold variation in the number of imaging services provided across the country."<sup>xiii</sup> MedPAC cites studies establishing that more medical services, in general, do not result in better outcomes. Further, Medicare survival rates in areas with higher use of imaging services do not exceed rates in areas with lower use.<sup>xiii</sup>

Research documents a high degree of regional variation in the rates of cardiac diagnostic tests and procedures throughout the country. According to the *Dartmouth Atlas of Cardiovascular Healthcare* and *The Dartmouth Atlas of Health Care in Michigan*, "the likelihood that a patient with CAD will have a particular test or procedure depends in large measure on where the patient lives and seeks care."<sup>xiv, xv, xvi</sup> A regional comparison of 2007 Medicare utilization of noninvasive

diagnostic imaging found that some of the highest regional variability occurred among cardiac-specific imaging procedures, including echocardiogram, nuclear, MRI, CT and PET.<sup>xvii</sup> A variety of factors - rates of illness, differences in prices paid by Medicare across regions and income level - contribute to the regional variation. Although the Dartmouth researchers acknowledge that these factors play a role in geographic variation, their work focuses on the role of the local supply of medical resources and the related provision of discretionary services as the drivers of utilization and cost.<sup>xviii</sup>

There is a wealth of research suggesting that physicians who self-refer, i.e., refer a patient to an entity in which the physician has a financial interest, use more services than those who do not self-refer.<sup>xix</sup> The Medicare program generally prohibits physicians from self-referral. However, under the "in-office ancillary exception," physicians may be paid if the services are leased or shared and delivered at another site. The physicians may also receive payment if the rendering physician provides the services in the same building where they also provide other services.<sup>viii</sup> A 2007 study estimated that 60% of imaging providers in California employed a leasing or shared arrangement that allowed them to bill under the in-office ancillary exemption.<sup>xx</sup>

The increasing use of diagnostic imaging raises alarm about excessive exposure to radiation. From 1980 to 2006, the per capita radiation dose from diagnostic imaging increased by 600%. This was primarily due to the rise in use of CT and nuclear medicine testing. Studies estimate that 1.5-2% of cancers in the United States may be due to radiation from CT scans.<sup>ix, xxi</sup> Finally, a 2010 article suggests that "the greatest risk that patients face with unnecessary imaging is needless exposure to non-beneficial downstream testing and inappropriate treatment related to misdiagnosis and the over diagnosis of common but unimportant findings."<sup>xxii</sup>

### ***BCBSM Experience***

CVD is highly prevalent in the BCBSM population and accounts for a sizeable portion of BCBSM costs. In an analysis of 2007 claims, BCBSM spent over \$500 million in facility and professional costs associated with CAD alone and more than \$1.1 billion in facility and professional costs associated with CAD, cerebrovascular disease and heart disease. In an analysis of 2009 claims, 48,348 BCBSM commercial members age 18-75 (or 2.17% of adults) had a diagnosis of CAD. This is substantially lower than the national prevalence rate, possibly due to three factors. First, claims data is known to underestimate diseases, such as CAD. Research demonstrates that, compared to clinical records, claims data lack important information on diagnoses and prognostic factors relevant to CAD. One study found that claims data failed to identify approximately half of all cases.<sup>xxiii</sup> Second, because BCBSM has few elderly individuals enrolled through the commercial product, this BCBSM population is substantially younger than the national profile. Individuals over 60 are two and a half times more likely than individuals between ages 40-59 to have CAD. The rates for individuals age 80 and older are approximately four times as high.<sup>i</sup> The relative lack of older individuals in the BCBSM commercial population is a factor in skewing the prevalence of CAD below the national rate. Finally, the definition of CAD used to derive the national number appears to include patients diagnosed with aortic aneurysms, while the BCBSM definition does not. Although the population of patients with aortic aneurysms is not large, this may account for some of the discrepancy as well.

The 2010 CHRTBook: Health Care Variation in Michigan – based on BCBSM data – shows substantial regional variation in the use and cost of cardiac procedures by BCBSM members in 2008. In contrast to national trends, BCBSM use rates decreased 16.6% from 1997 to 2008.

The rates ranged from a low of 3.8 per 1,000 members in Muskegon (25% below the state average) to a high of 12 per 1,000 members in Saginaw (30% higher than the state average). Recent data collected by BCBSM's Clinical Epidemiology and Biostatistics (CEB) department demonstrates a decline in use of stress tests (myocardial perfusion imaging and stress electrocardiogram, in particular) and cardiac catheterizations in BCBSM members from January 2006 - November 2010.

## Possible Solutions

The Deficit Reduction Act of 2005 introduced payment changes in Medicare that appear to have slowed the cost increases and volume of imaging growth. The DRA instituted payment caps and captured savings related to imaging of contiguous body parts. On April 7, 2011, MedPAC disputed industry claims of substantial declines in imaging cost and volume. MedPAC then voted to recommend two additional changes to Medicare intended to further reduce the growth in imaging use and cost. These recommendations are included in MedPAC's June Report to Congress<sup>xxiv</sup>:

- 1) Reduce the physician work component of imaging and other diagnostic tests ordered and performed by the same practitioner (i.e., cut Medicare reimbursement for doctors who refer patients for diagnostic scans on equipment they own themselves).
- 2) Implement a prior authorization program for those doctors with a history of ordering high volumes of advanced studies.

Researchers have proposed a variety of methods to address inappropriate utilization of cardiac procedures and tests,<sup>xviii</sup> although the effectiveness of some of the approaches are not well studied. These approaches include:

- Developing and promoting clinical practice guidelines
- Applying evidence-based appropriateness criteria
- Educating physicians on guidelines and criteria
- Establishing utilization targets
- Employing prior authorization programs, generally through radiology benefit managers (RBMs)
- Providing feedback to physicians based on targets or peer comparisons
- Establishing point-of-service decision support systems
- Establishing health information exchanges to share digital images and results and prevent duplicative imaging
- Imposing higher copayments for high cost diagnostic imaging services
- Privileging or limiting cardiac service providers to those obtaining accreditation or meeting certain criteria, to address quality concerns related to the rapid proliferation of imaging units

A study of three health plans contracting with RBMs to perform prior authorization of advanced imaging requests revealed moderate declines in the use of high-tech imaging, particularly in the first year of the program. The researchers collected data for only two years following program implementation, so the study does not provide results on the long-term effects of imaging prior authorization programs.<sup>xxv</sup>

The GAO surveyed a sample of 17 health plans that manage utilization of imaging services, primarily through RBM-administered prior authorization programs. The plans reported substantial declines in use of advanced imaging following implementation of prior authorization. Annual growth rates were reduced from 10-20% to less than 5% in some plans. The most

significant declines were reported in the immediate period following implementation. One plan achieved zero growth in imaging costs after three years and discontinued use of the prior authorization program. In the following three years, the plan experienced an average annual growth rate of 10% in imaging costs. The plan subsequently redeployed the RBM's prior authorization program and growth declined to single digits within six months.<sup>viii</sup>

MedPAC's 2005 Report to the Congress details a variety of approaches used by health plans to reduce imaging use. Some plans profile individual physicians' ordering of imaging services against peer performance and identify physicians with the highest use patterns. One plan (BCBSM) removed high utilizers from its network and found that the threat of exclusion was sufficient to change physician behavior.<sup>xiii</sup>

The Institute for Clinical Systems Improvement (ICSI), headquartered in Minnesota, worked with the medical community to enable providers to use appropriateness criteria when ordering high-technology diagnostic imaging scans at point of care. In 2007, the ICSI implemented a successful year long pilot involving five ICSI members and four Minnesota health plans to address physician concerns with prior notification programs, including the removal of decision-making from the point of service and patient inconvenience. The pilot offered decision support as an alternative to prior notification through either the electronic medical record or the web and enabled providers to order MRI, CT, PET and nuclear cardiology scans while with the patient. The physician enters clinical information and, based on proprietary appropriateness criteria, immediately receives a 1-9 utility score (with ranges for Indicated, Marginal, or Low Utility) and possible alternatives. Claims must include a decision support number to be paid, but claims are not currently denied based on the utility score. Since the end of the pilot in 2008, the five ICSI medical groups continue to use decision support for ordering scans. Both the medical groups and health plans participating in the three-year effort state that this option is much more effective and efficient when compared to call-in prior notification processes. The data collected over three years – including over one million scans – showed that this decision-support approach improved the diagnostic utility of scans ordered, reduced patient exposure to radiation, increased provider efficiency, aided in provider-patient shared decision making and saved Minnesota \$84 million.<sup>xxvi</sup> ICSI and participating health plans teamed up with Nuance Communications - an appropriateness criteria and software vendor. As a result, this statewide initiative now offers a patient centered and cost effective approach that is available to medical groups and hospital-based clinics across Minnesota.

Sistrom et. al. document a successful program of computerized order entry coupled with integrated decision support for diagnostic imaging studies. Ordering physicians submit the clinical indication to support the request. The program immediately provides the physician with a 1-9 appropriateness score, based on the American College of Radiology Appropriateness Criteria supplemented with locally developed indication-procedure pairs. The program resulted in a significant decline in CT volume growth and growth rate and a significant decrease in the MRI growth rate.<sup>xxvii</sup>

The American College of Cardiology (ACC) has developed appropriate use criteria for various cardiac imaging procedures and has been actively involved in advocating for and piloting their use in the clinical setting as an alternative to prior authorization and prior notification programs. However, there is no data on the effectiveness of the ACC efforts to date.

## **BCBSM Experience**

BCBSM has employed American Imaging Management (AIM), a national RBM, for many years to prior authorize non-emergency, outpatient high-tech radiology procedures and privilege practitioners to perform selected procedures. Although approval rates were initially lower, AIM now approves more than 90% of high-tech radiology requests. BCBSM does not prior authorize coronary computed tomography angiography (CCTA) through AIM, but limits the providers of CCTA services to those that participate in the BCBSM-supported Advanced Cardiac Imaging Consortium (ACIC) Collaborative Quality Initiative (CQI). ACIC has developed best practice guidelines and is attempting to influence practice patterns by sharing data on guidelines, referral patterns and appropriateness.

The design of BCBSM radiology initiative reduces variation in cost and use rates of imaging services, increases compliance with the prior authorization program and increases use of the web-based prior authorization process. PGIP provides participating POs with low-tech and high-tech radiology cost and utilization data and offers incentive payments for performance and improvement. To date, BCBSM's Radiology Initiative has had positive results. Savings for the most recent 18 month period, 4Q09 through 2Q11, is \$27.8million, with the greatest savings concentrated among high-tech radiology services.

## **III. Initiative Description**

### **Specific Area of Focus**

Phase I of the CCI focuses on the utilization of diagnostic cardiac procedures, while Phase II focuses on guideline-based components of cardiac treatment for select cardiac diagnoses.

Although the two Phases of the initiative are not entirely aligned – one addresses the use of diagnostic procedures and the other addresses evidence-based components of cardiac treatment – the CCI is more comprehensive and consequential in that it addresses both utilization and quality. Therefore, POs that elect to participate in this initiative must participate initially in both Phase I and Phase II, and ultimately Phase III (which focuses on the cardiac diagnostic/therapeutic cascade) when it is rolled out in 2012.

Phase I of the CCI will provide each PO with data on the cost and use of cardiac diagnostic procedures. The procedures include stress tests (functional imaging studies), nonstress echocardiograms, other imaging studies at rest, EKGs (excluding EKGs at rest) and catheterizations. The assumption underlying Phase I of the Initiative is that POs will respond to the availability of utilization and cost data, coupled with financial incentives for performance and improvement, by:

- Analyzing their data in comparison to that of other POs to target areas for improved cost-effectiveness
- Adopting strategies to improve cost and use performance consistent with their identified opportunities

As with other PGIP performance feedback initiatives, the overall strategy is to provide information and incentives to the POs to encourage improvement, while allowing POs the autonomy to choose those tactics that will reduce unnecessary utilization and moderate cost

within the context of their unique setting. These improvement approaches may include, but are not limited to:

- Substituting low-technology procedures for certain high-technology procedures
- Establishing appropriateness guidelines and/or a decision support framework for the use of high-technology cardiac procedures
- Reconsidering the appropriateness of cardiology referrals for asymptomatic patients
- Assessing the patterns of use and efficiency of cardiologists and sharing the data with cardiology groups to whom PCPs refer
- Directing PCP referrals to more efficient cardiology practices

(See Appendix I for the cause and effect diagram.)

## **Target Population**

Phase I of the CCI targets PGIP attributed members between 18 and 64 years of age.

## **Criteria for Participation**

Phase I of the CCI is applicable to the following PGIP physician specialties:

### Primary Care

- General Practice
- Family Practice
- Internal Medicine
- Pediatrics
- Geriatric Medicine (Internal Medicine and Family Medicine)

### Specialty

- Cardiology

(Note: Cardiac and thoracic surgeons are not eligible for participation in the CCI.)

## **BCBSM Deliverables**

In 2012, PGIP will provide each PO with biannual cardiac dashboards and quarterly datasets. Dashboards, produced in May and November of each year, will provide at least 12 months of data. The quarterly PO specific datasets will provide claims-level data for each cardiac diagnostic procedure code.

Using the BCBSM PCP attribution model to determine attributed membership, the Initiative will provide the Cardiac Diagnostic Procedure Dashboard Report, which will include data by PO on the following:

- Unadjusted and risk-adjusted utilization rates (per 1,000 attributed members per year) for select cardiac diagnostic procedures and procedure categories
- Unadjusted and risk-adjusted standard costs PMPM for each cardiac diagnostic procedure and procedure category
- Percentage of attributed members who had one diagnostic procedure
- Percentage of attributed members who had two diagnostic procedures
- Percentage of attributed members who had three or more diagnostic procedures

The risk adjusted data is provided to allow for comparisons between POs. The unadjusted data is provided to allow POs to tie their dashboard data to the quarterly PO level datasets.

The claims dataset will allow POs to perform analyses at the individual PO and physician level. The dataset includes claim-level detail for each diagnostic procedure rendered for the PO's attributed membership. The dataset contains dates of service, an indicator of the location of service (office/free-standing imaging facility, outpatient hospital or emergency room), the procedure code with a description, the primary ICD-9 diagnosis code and description and the first name, last name and specialty of the ordering physician.

The dashboard will also include PMPM standard cost benchmarks that can provide guidance to POs on efficient treatment practices on a risk adjusted, population level. The benchmark will be calculated based on the average overall risk-adjusted standard cost PMPM performance of the highest performing PGIP POs (i.e., those with the lowest PMPM cost) that account for 20% of the attributed population. The dashboard will be followed by an "opportunity analysis," which will provide each PO with information on how much the PO must improve to reach benchmark status.

*BCBSM reserves the right to modify its evaluative and administrative processes related to the Initiative.*

(See Appendix II for the data delivery schedule.)

## **PO Expectations/Deliverables**

All POs participating in the CCI must provide BCBSM with information on the cardiologists and cardiology group affiliations of cardiologists within the PO. Further, all POs participating in the CCI must participate in Phase I, Phase II and Phase III (addressing the cardiac diagnostic/therapeutic cascade).

POs participating in the Initiative must do the following:

- Identify a clinical lead (may be the same or different clinical lead for Phase I, Phase II and Phase III)
- Identify an analytic lead (may be the same or different analytic lead for Phase I, Phase II and Phase III)
- Distribute dashboard reports and datasets provided by BCBSM to PUs in a timely manner
- Review and use BCBSM dashboards and data sets to investigate and identify variation in cardiac diagnostic procedures among physicians
- Develop and implement strategies and programs to manage the use of cardiac diagnostic procedures
- Attend monthly PGIP Data Users Workgroup meetings and periodic webinars
- Complete biannual progress reports\*

\*Note: POs will no longer be required to submit action plans with measureable objectives. Information will be gathered through additional CCI specific questions in the progress reports.

## **Quality Improvement Model**

According to a report of the National Council on Radiation Protection and Measurements, Americans were exposed to seven times more ionizing radiation from medical procedures in 2006 than in the early 1980s.<sup>xxviii</sup> Cardiac procedures may account for almost a third of radiation exposure.<sup>xxix</sup> Reducing the volume of unnecessary cardiac imaging procedures will reduce radiation exposure and improve health as a result. Further, decreasing the incidence of unnecessary imaging will reduce the sequela of misdiagnosis and over-diagnosis associated with unnecessary procedures.

Similar to the radiology initiative, POs will be asked to focus on a variety of quality improvement areas, including:

- Developing a process for distributing dashboards and datasets to sub-POs and PUs
- Developing a policy for self-referrals to assure appropriate use of procedures
- Developing a strategy for reducing patient exposure to radiation

In addition, POs participating in the radiology initiative will receive reports of patients with high exposure to radiation and will be asked to develop approaches to reducing radiation exposure for those targeted patients.

## **Incentive Model and Payment Methodology**

For POs in the first year of participation in the CCI, the incentive payments for Phase I of the Initiative are based on participation and performance only. The incentive payments for POs in the second year of participation are based on performance and improvement.

In this initiative, the incentive payments for POs in the second year of participation are based on PO performance (on the risk-adjusted PMPM cost of the services covered by Phase I), PO improvement over a prior measurement period, and the number of PO-attributed members. The payment methodology generates a single summary score for each PO that represents the weighted sum of the PO's normalized performance score and normalized improvement score. The normalized performance score is represented along a scale from 0-1, where 1 represents the best performance and 0 represents the worst performance. The normalized improvement score – the ratio of current improvement to the theoretical optimal improvement – is similarly represented along a scale from 0-1, where 1 represents the most improvement over the previous measurement period and 0 represents the least improvement over the previous period.

Each PO with a summary score above a certain percentile will receive an initiative incentive payment. The PO will receive a percentage of the initiative-specific incentive pool based on the PO's summary score, weighted by the PO's number of attributed members. POs with summary scores in the lowest percentiles will receive either no incentive payment or a negative incentive payment. The negative payment is based on the PO's summary score and the number of attributed members, factored by a negative 10% payment percentage.

The negative incentive payment is designed to a) encourage POs to become actively engaged in pursuing improvement in those initiatives in which they are enrolled, and b) encourage POs to carefully make their initiative selections and discourage them from enrolling in initiatives without engaging in activities to improve performance. A PO's poor performance on a specific initiative can result in a negative incentive payment that reduces the PO's overall reward payment for the scoring period. However, a PO's overall incentive payment (for all PGIP initiatives) for a scoring period will never be lower than zero.

Phase I is consistent with the goals of the PGIP Radiology Initiative, which aims to reduce the inappropriate use of diagnostic radiology services and thereby moderate the increase in overall diagnostic imaging costs. Because of the congruence of the two initiatives, POs may participate in both Phase I of the CCI and the Radiology Initiative and receive incentive payments under both initiatives. This approach amplifies the PGIP focus on the significant opportunities to reduce costs associated with cardiac diagnostic imaging procedures and enhances the synergy between the Radiology and CCIs.

*BCBSM reserves the right to use discretion in making incentive payments based on the data and relative PO performance.*

## **IV. Evaluation**

### **Evaluation Overview**

The evaluation of the CCI is designed to assess the effectiveness of the Initiative in achieving stated objectives. The process evaluation (generally the short-term and possibly intermediate-term evaluation) will address how the Intervention is functioning, including process, structure, behavioral and knowledge-based changes brought about as a result of the Initiative. The outcome evaluation (generally the long-term and possibly intermediate term evaluation) will focus on the effects theorized to result from the Initiative's interventions.

Performance on the short-term objectives will be addressed biannually, following review of the progress reports. The preliminary short-term evaluation will be conducted in June 2012, the second evaluation will be conducted in December 2012 and the final short-term evaluation will be conducted in June 2013.

Although the long-term goal of the CCI is a reduction in PMPM cost for cardiac diagnostic procedures, the Initiative's primary intervention is directed at short-term and intermediate problem areas that, when resolved, may reduce a member's likelihood of receiving inappropriate diagnostic procedures.

The primary data source for the intermediate evaluation of the CCI is the progress reports. The evaluation of the intermediate success of the Initiative will be based on whether the performance goals have been met.

The evaluation will be conducted bi-annually, following review of the progress reports. The preliminary intermediate evaluations will be conducted in June 2012 and December 2012, with the final intermediate evaluation in June 2013, two and a half years after initial implementation of the CCI.

(See Appendix III for detailed evaluation metrics.)

### **Progress Reporting**

Twice a year, in approximately April and August, BCBSM will provide the POs with a progress report template for each PGIP initiative. The progress reports are tailored to the specific requirements and goals of each initiative. The progress reports provide POs the opportunity to update BCBSM on activities, strategies, accomplishments and obstacles during the reporting period. The CCI progress report includes a number of questions that, when answered by the POs, form the basis for the short- and intermediate-term outcome evaluations.

(See Appendix IV for the CCI-specific questions.)

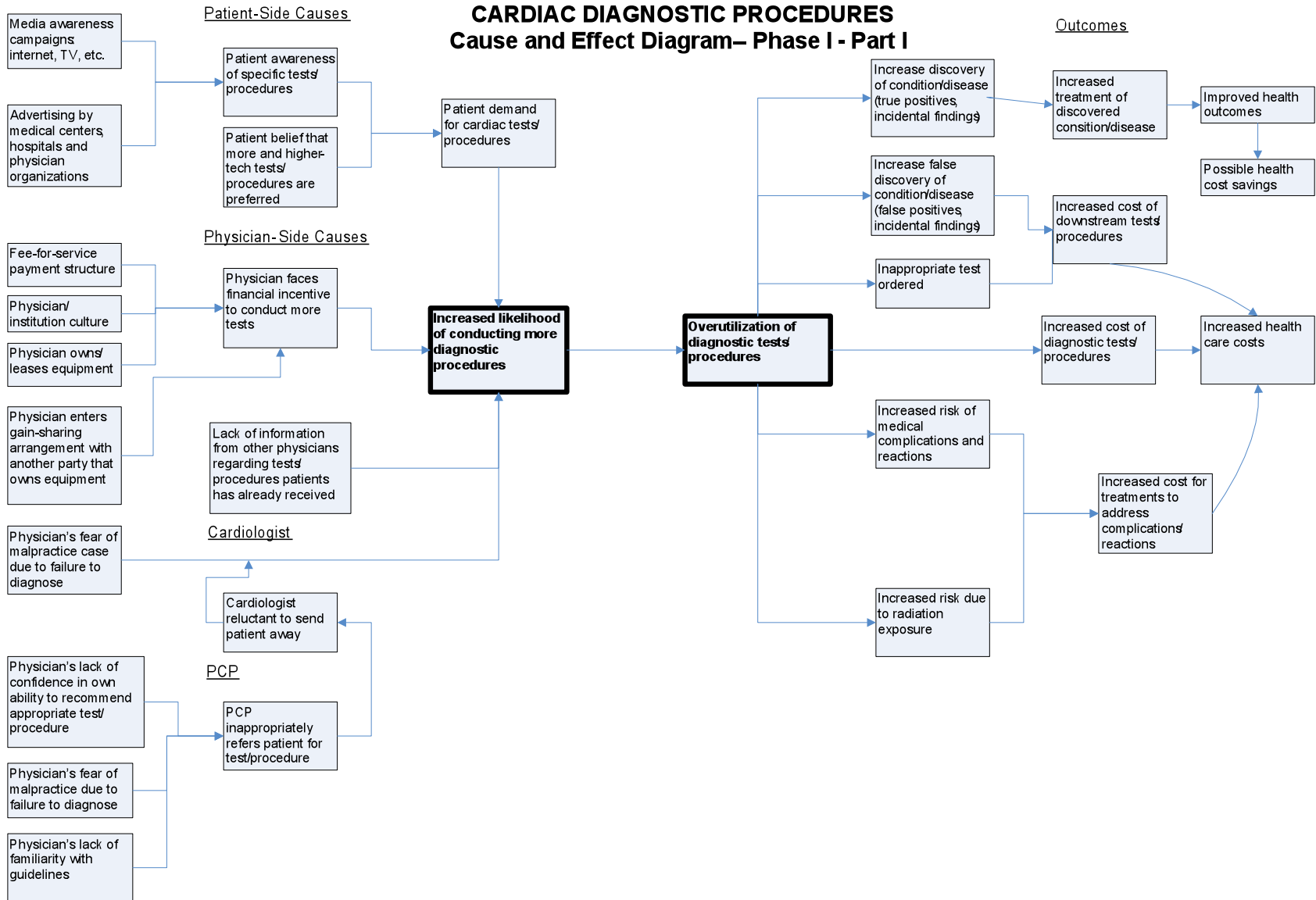
## **V. Results**

Results will be forth coming.

# Appendix I - Cause and Effect Diagrams

## OVERUTILIZATION OF CARDIAC DIAGNOSTIC PROCEDURES

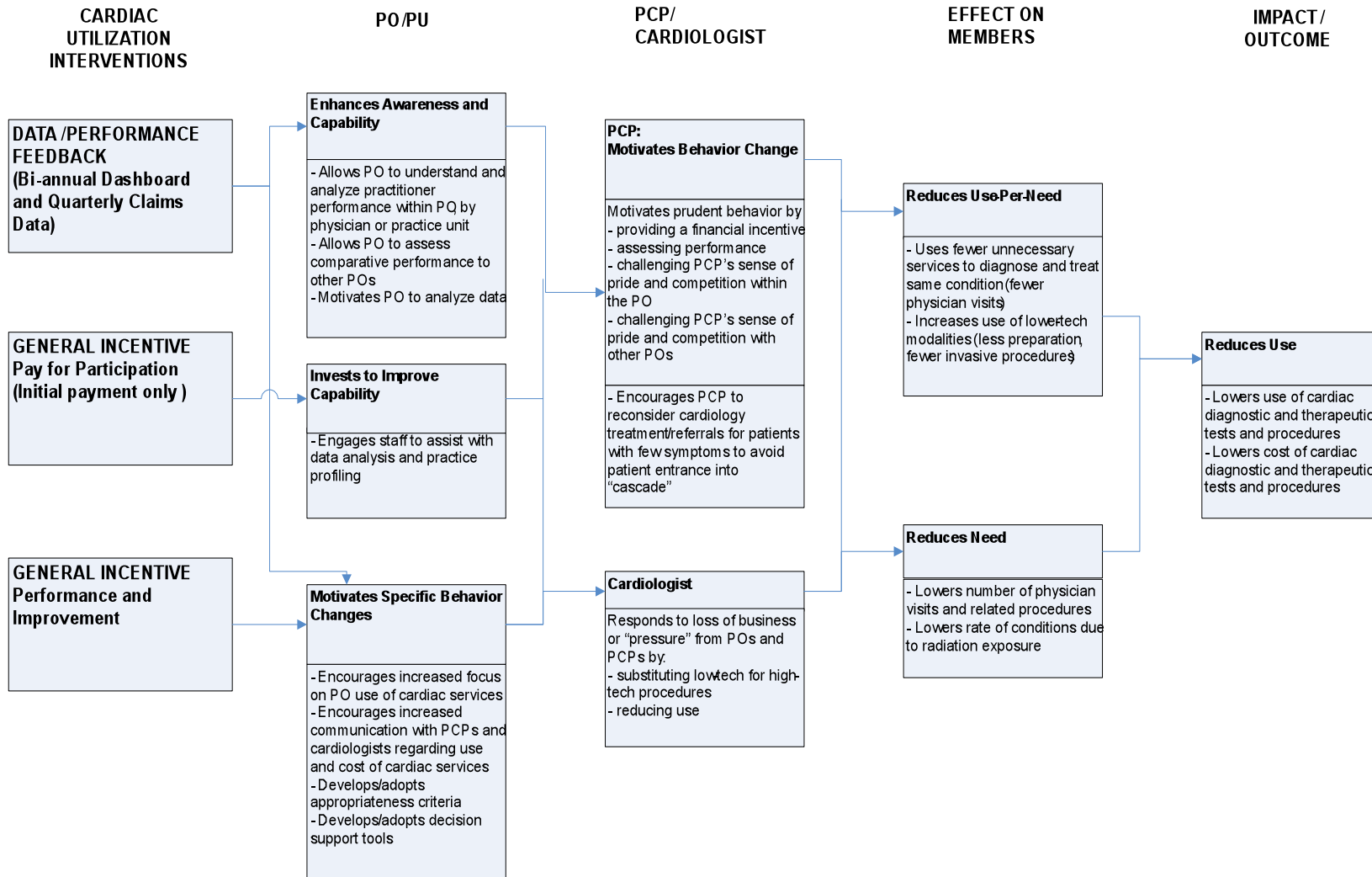
### CARDIAC DIAGNOSTIC PROCEDURES Cause and Effect Diagram– Phase I - Part I



# OVERUTILIZATION OF CARDIAC DIAGNOSTIC PROCEDURES

## CARDIAC DIAGNOSTIC PROCEDURES

### Cause and Effect Diagram– Phase I - Part II (Interventions)



## Appendix II - Data Delivery Schedule

<b>2011-2012 CARDIAC REPORTING</b>			
<b>Dashboard Reports</b>			
<b>Initiatives</b>	<b>Data Type</b>	<b>Release Date</b>	<b>Time period of Claims</b>
Cardiac Care (Utilization)	Dashboard Report (Baseline)	01/15/2011	01/01/2006 - 12/31/2006 01/01/2007 – 12/31/2007 01/01/2008 - 12/31/2008
Cardiac Care (Utilization & Quality)	Dashboard Report (Revised Baseline)	01/2012	01/01/2008 - 12/31/2008 01/01/2009 - 12/31/2009
Cardiac Care (Utilization & Quality)	Dashboard Report (Routine)	06/13/2012	01/01/2010 - 12/31/2010 01/01/2011 – 12/31/2011
Cardiac Care (Utilization & Quality)	Dashboard Report (Routine)	12/12/2012	07/01/2010 - 06/30/2011 07/01/2011 - 06/30/2012
<b>Datasets</b>			
Cardiac Care (Utilization & Quality)	Quarterly Dataset	03/14/2012	10/01/2010 - 09/30/2011
	Quarterly Dataset	06/13/2012	01/01/2011 - 12/31/2011
	Quarterly Dataset	09/12/2012	04/01/2011 - 03/31/2012
	Quarterly Dataset	12/12/2012	07/01/2011 - 06/30/2012

## Appendix III – Evaluation Metrics

**Table 1: Short-Term Measures**

Category	Process Metric (Applicable to Phase I and/or II?)	Data Source	Specific Measure	Metric	Performance Goal
<b>Initiative Team</b>	Identification of the Clinical Lead  (Phases I and II – clinical leads may be the same or different for each phase)	Progress Report	Question: Please identify the name of the Clinical Lead for the CCI	% of participating PGIP POs that identified a Clinical Lead	At least 90% of POs participating in the CCI will identify a Clinical Lead
	Identification of the Initiative Lead  (Phases I and II – clinical leads may be the same or different for each phase)		Question: Please identify the name of the Initiative Lead for the CCI	% of participating PGIP POs that identified an Initiative Lead	At least 90% of POs participating in the CCI will identify an Initiative Lead
	Identification of the Data Lead		Question: Please identify the name of the Data Lead for the CCI	% of participating PGIP POs that identified a Data Lead	At least 90% of PGIP POs will identify a Data Lead
<b>Participation in the Initiative</b>	PO Participation  (Phases I and II)	PGIP Physician List	NA	Number and % of eligible POs that participate in the Cardiac Care Initiative	At least 65% of PGIP POs will participate in the CCI
	PCP Participation  (Phases I and II)			Number and % of PGIP PCPs participating in the CCI	At least 60% of PGIP PCPs will participate in the CCI
	Cardiologist Participation  (Phases I and II)			Number and % of PGIP cardiologists participating in the CCI	At least 60% of PGIP cardiologists will participate in the CCI

Category	Process Metric (Applicable to Phase I and/or II?)	Data Source	Specific Measure	Metric	Performance Goal
Dataset Use	Number of Datasets Opened  (Phases I and II)	Progress Report	Question: When datasets from BCBSM are made available, my PO does the following:	Number and % of participating PGIP POs that opened the quarterly dataset	At least 80% of POs has a point person assigned and has opened the quarterly dataset

**Table 2: Intermediate Measures**

Overall Objective	Specific Objective	Data Source	Measurement	Metric	Performance Goal
<b>Intermediate Objective 1:</b> POs exhibit progress in building an infrastructure for moderating the increase in standard cost PMPM for cardiac diagnostic services (Phase I)	<b>Objective 1.1:</b> Identify focus areas selections and communication to PUs	Progress Report	Question: Which of the following categories are specific areas of focus for Phase I (Utilization of Diagnostic Procedures) of this Initiative? (Please select one or more answers from the list below.)	Number and % of responses by focus area	At least 95% of POs have chosen one or more focus area
			Question: For each utilization focus area chosen above, please indicate why your organization chose to focus on this area. (Please select one or more answers from the list below.)	Number and % of responses by reason	
			Question: Did your PO use the practice-level or physician-level reports for peer comparisons? YES. NO.	Number and % of responses	At least 70% of POs use practice-level/physician-level reports for peer comparisons
			Question: Did	Number and %	At least 70% of

Overall Objective	Specific Objective	Data Source	Measurement	Metric	Performance Goal
			your PO use the practice-level or physician-level reports to identify outliers? YES. NO.	of responses	POs use practice-level/physician-level reports to identify outliers
			Question: Has your PO established health information exchanges to share digital images/results and prevent duplicative imaging? YES. NO	Number and % of responses	At least 70% of POs share digital results to prevent duplicative imaging
	<b>Objective 1.2:</b> Develop specific target goals for POs	Progress Report	Question: For the utilization focus areas chosen above, what is your organization's specific utilization and PMPM goal/target for the selected diagnostic procedures? For Example: -Achieve PGIP benchmark or lower for cardiac diagnostic utilization rate. (Performance) -Reduce the utilization of selected procedure by (please insert a numeric value) _____% (Improvement) -Achieve PGIP Cardiac PMPM cost benchmark or lower.	Number and % of responses	At least 80% of POs have identified specific utilization targets

Overall Objective	Specific Objective	Data Source	Measurement	Metric	Performance Goal
			(Performance) -Decrease PMPM of selected procedure by (please insert a numeric number) _____% (Improvement)		
			Question: Listed below are common strategies that POs may use when implementing Phase I (Utilization of Diagnostic Procedures) of the Cardiac Initiative. Please indicate to what degree your organization is using these strategies to implement Phase I.	Number and % of POs that reported strategies to implement the Initiative	At least 95% of POs have developed at least one strategy to implement the initiative
			Question: Which did you use this period to share information and collaborate with other PGIP POs in Phase I of this Initiative? (Select one or more answers from the list below.)	Number and % of POs that collaborate with other POs	At least 80% of POs have shares information with other POs
				Number and % of each PO that reports each method of collaboration	
	<b>Objective 1.4:</b> Reduce volume of cardiac diagnostic services in which physicians has		Question: Does your PO have a policy regarding physician financial investment in high-tech imaging	Number and % of responses	At least 70% of POs will have a policy regarding financial investment

Overall Objective	Specific Objective	Data Source	Measurement	Metric	Performance Goal
	external motivation for performing service		equipment or centers? YES. NO.	Number and % of responses	At least 70% of POs will have a policy regarding financial investment
			Question: Does your PO have a policy regarding physician self-referral? YES. NO.	Number and % of responses	At least 70% of POs will have a policy regarding self-referral
	<b>Objective: 1.5:</b> Identify Barriers to implementing Phase I	Progress Report	Question: Which barriers have you encountered in implementing Phase I of this initiative?	Number and % of responses for each barrier	

**Table 3: Long-Term Measures**

Objective	Type of Outcome	Outcome Measure	Description
Reduce inappropriate cardiac diagnostic procedures (Phase I)	Financial	Reduce PMPM cost (or PMPM cost trend) of cardiac diagnostic procedures	PMPM costs for cardiac diagnostic procedures (or the PMPM cost trend) will decrease by a greater amount than would have been achieved without the CCI

## Appendix IV – Progress Report Questions

Activity Period:  
 Date Completed:  
 Physician Organization Name:  
 Main Physician Organization Contact Person:  
 Phone Number:  
 Email Address:

### PHASE I: Utilization of Diagnostic Cardiac Testing

1. Which of the following categories are specific areas of focus for Phase I (Utilization of Diagnostic Procedures) of this Initiative? (Please select one or more answers from the list below.)
- MRI
  - Echocardiogram
  - EKG
  - MPI
  - Cardiac Computer Imaging (CT)
  - Other nuclear studies
  - Holter monitor
  - Electrophysiologic tests
  - Evaluation of Pace maker/Defibrillator
  - Catheterization/angiography
  - Other (please describe below)

1. A) For each utilization focus area chosen above, please indicate why your organization chose to focus on this area. (Please select one or more answers from the list below.)

	MRI	Echo	EKG	MPI	CT	Nuclear Study	Holter	Electro-physiologic	Cath/Angiogram	Other
Below benchmark performance										
Greatest opportunity for improvement										
High Utilization										
Best potential to beneficially impact overall PMPM cost										
Patient Safety										
PCP engagement involving evidence based medicine related to the										

	MRI	Echo	EKG	MPI	CT	Nuclear Study	Holter	Electro-physiologic	Cath/Angiogram	Other
appropriate use of these studies										
Previously working on this area										
These tests are most likely to be ordered by the PCP, other tests are almost always ordered by the specialist										
Physician champion was interested in this topic										
Other (please describe below)										

1. B) For the utilization focus areas chosen above, what is your organization's specific utilization and PMPM goal/target for the selected diagnostic procedures? For Example:

- Achieve PGIP benchmark or lower for cardiac diagnostic utilization rate. (Performance)
- Reduce the utilization of selected procedure by (please insert a numeric value) \_\_\_\_% (Improvement)
- Achieve PGIP Cardiac PMPM cost benchmark or lower. (Performance)
- Decrease PMPM of selected procedure by (please insert a numeric number) \_\_\_\_% (Improvement)

(Example)

	MRI	Echo	EKG	MPI	CT	Nuclear Study	Holter	Electro-physiologic	Cath/Angiogram	Other
Benchmark Utilization		X			X					
Utilization Improvement %		5%								
Benchmark PMPM					X					
PMPM Improvement %		2%								

2. Listed below are common strategies that POs may use when implementing Phase I (Utilization of Diagnostic Procedures) of the Cardiac Initiative. Please indicate to what degree your organization is using these strategies to implement Phase I.

Strategy	Fully Developed	Partial Developed	Not a Strategy
1) Review dashboard reports to determine opportunities for improvement			

2) Conduct data analysis			
3) Create practice unit-level or physician-level reports (e.g., physician report cards) with targets or peer comparisons			
4) Share “report card” data and provide feedback to physicians			
5) Incorporate datasets into data warehouse			
6) Incorporate data sets into population profiling system			
7) Adopt and distribute national clinical guidelines for the use of cardiac diagnostic procedures			
8) Adopt and distribute indicators/appropriateness criteria for use of cardiac diagnostic procedures			
9) Educate physicians on indicators/appropriateness criteria for use of cardiac diagnostic procedures			
10) Develop process for evaluating alternatives to high-tech diagnostic procedures at the point of service (e.g., order entry or manual ordering)			
11) Implement computerized order entry coupled with integrated decision support for cardiac diagnostic testing			
12) Create process to reduce duplication of cardiac diagnostic tests			
13) Create process to improve communication between PCPs and cardiologists			
14) Address the potential for self-referral for cardiac diagnostic tests			
15) Restrict referrals to select providers of cardiac diagnostic services/ direct PCP referrals to more efficient cardiology practices			
16) Other (please describe)			

***If the PO selected fully developed or partial developed for strategies 3, 10, 12, or 14, automatically populate the related questions below:***

3A) Did your PO use the practice-level or physician-level reports for peer comparisons?  
YES. NO.

3B) Did your PO use the practice-level or physician-level reports to identify outliers?  
YES. NO.

10A) Does your PO have a policy regarding physician financial investment in high-tech imaging equipment or centers? YES. NO.

12A) Has your PO established health information exchanges to share digital images/results and prevent duplicative imaging? YES. NO

14A) Does your PO have a policy regarding physician self-referral? YES. NO.

3. Which did you use this period to share and collaborate with other PGIP POs in Phase I of this Initiative? (Select one or more answers from the list below.)

- Informally shared data, documents or processes with other PGIP POs (please specify which POs below)
- Attended PGIP Data Users Workgroup
- Participated in workgroups, committees or collaborations
- Presented at PGIP Quarterly Meeting
- No collaboration occurred during this reporting period
- Other (please describe below)

4. Which barriers have you encountered in implementing Phase I of this initiative? (Please select one or more answers from the list below.)

- Staff members are not adequately trained on elements of initiative, including the data
- Inadequate financial or staff resources
- Difficulty incorporating changes into workflow
- Difficulty integrating information systems (e.g., EMR, registry, etc.)
- Underestimated time needed to complete task(s)
- Lack of provider buy-in or cooperation
- Resistance/lack of awareness on behalf of patients
- Data received from BCBSM appears to be incorrect
- Data received from BCBSM is missing data elements that we need for analysis
- Data received from BCBSM is not timely
- Other (please describe below)

#### **Applies to both Phase I and II**

- 1) Do you integrate the findings from BCBSM data into your quality improvement efforts?
  - a. Always
  - b. Sometimes
  - c. Never
  - d. Our PO has considered using this strategy in the future
  
- 2) Was the quarterly PGIP initiative dataset (Microsoft Access format) distributed opened by your PO? If yes, then by whom?

## Appendix V – PGIP Contacts

For additional information on the CCI, contact the following initiative leads:

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Health Care Analyst  
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## Endnotes

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