Introduction

As one of four pilot chronic disease *Integration Demonstration Project* states, Massachusetts has developed the internal capacity and leadership within the Department of Public Health to execute a strong coordinated chronic disease infrastructure. The additional funding will enable the Massachusetts Department of Public Health (MDPH) to engage external partners in the development of a *Massachusetts Chronic Disease Prevention and Health Promotion Plan* focused on reducing the burden of the top chronic diseases for Massachusetts residents, especially those most at risk, through policy, systems and environmental changes. MDPH will realign its disease-specific programs into a new functional structure that focuses on improving the health of Massachusetts residents by developing and implementing cross-cutting policies, conducting integrated chronic disease surveillance and evaluation, aiming interventions at areas of the state with highest risk, developing inter-related risk factor messaging to reach people with co-morbidities, and collaborating with local and state partners to improve population health outcomes.

Despite significant fiscal challenges, MDPH's commitment to coordinated chronic disease work remains a high priority. In fact, the state budget cuts have provided additional motivation to combine efforts and increase efficiency to reduce the impact of the cuts on health of Massachusetts residents. This funding opportunity gives MDPH the opportunity to support staffing for the new infrastructure, develop a state plan with external partners, and expand staff and partner expertise through trainings. MDPH requests the full amount of $825,000 to support its coordinated chronic disease efforts. If fully funded, this grant will support the salaries of some staff currently funded by categorical programs. MDPH will reallocate the savings from these positions into implementing community interventions for greater impact at reducing the burden of chronic disease.

1. Background and Need

Heart disease, cancer, asthma, stroke, diabetes, and arthritis are the leading chronic disease causes of death and disability in Massachusetts and the nation. Further, these chronic diseases have significant co-morbidities. A logistic regression of Massachusetts BRFSS data shows that people who report coronary heart disease are 176% more likely to report having diabetes, 80% more likely to report disability from arthritis, 34% more likely to be cancer survivors, and 325% more likely to report having a stroke.[1] The pattern and significance of co-morbid interrelationships are similar for the cancer, stroke, diabetes, and arthritis.

When risk factors like cigarette smoking obesity, hypertension, and cholesterol are reduced, comorbid conditions can be decreased from 14% to 70%[2]. In other words, making inroads in these risk factors may allow us to simultaneously reduce rates for chronic diseases. Our coordinated approach to chronic disease prevention will focus on the risk factors for disease as well as the diseases themselves.

Current chronic disease prevention and health promotion coordination and collaboration

The Division coordinates and collaborates already to plan chronic disease prevention and health promotion activities. These include joint strategic planning sessions with all the chronic disease program managers and bureau leaders, preparation of a chronic disease work plan as part of the Integrated Demonstration Project requirement, coordination and integration of grant applications,

conducting shared communication work, as well as the shared monitoring and evaluation of chronic disease data, including the Disparities Report Card and the Health of Massachusetts reports. Some of the highlights of these integration and cross-collaboration activities are shown below.

- The Integration Demonstration Project community pilot, Reducing Disparities among Men of Color, was designed by an interdisciplinary team from Care Coordination, Comprehensive Cancer Control, Diabetes, Heart Disease and Stroke, Tobacco Control Programs, Office of Community Health Workers, Office of Communications, and the Violence and Injury Prevention Division.
- The Cancer Prevention and Control Program worked closely with the Tobacco Control Program, the Wellness Unit (Nutrition, Physical Activity and Obesity Programs) and Office of Healthy Communities to apply for a policy grant from CDC awarded last year.
- The Heart Disease and Stroke Prevention and Control Program received a grant from the Council on State and Territorial Epidemiologists for a Data Linkage Pilot. This project involved all the chronic disease programs and links the following formally isolated datasets by town of residence and/or zip code to produce new information: Hospital Discharge, BRFSS, Massachusetts Department of Public Health's (MDPH) Community Surveys, Census, Mortality/Vital Records Database, and Medically Underserved Areas and Populations. The linkage by town/city allowed the analysis of local and community-level data across different sources and will inform MDPH programs as well as assist community-based organizations and partners to plan their interventions.
- Two statewide coalitions and partnerships (the Diabetes Coalition of Massachusetts and the Partnership for a Heart-Healthy Stroke-Free Massachusetts) co-sponsored a statewide conference to address policy, systems and environmental changes for preventing and managing heart disease, stroke, and diabetes. Both of these groups have expressed interest in forming a unified chronic disease coalition and developing a Massachusetts Chronic Disease Prevention and Health Promotion Plan.

Leading chronic diseases causing death and disability in Massachusetts

Chronic diseases are the leading cause of death and disease burden in Massachusetts and the US every year. These include cancer, heart disease, stroke, diabetes, arthritis and asthma. In the US seven out of ten deaths each year are due to chronic diseases[3] with heart disease, cancer and stroke accounting for more than 53% of all deaths each year in Massachusetts[4] and 50% of deaths in the US[5]. In 2008, cancer was the leading cause of death in Massachusetts, followed by heart diseases, stroke and diabetes. The likelihood of being diagnosed with cancer and other chronic diseases increases with age. The prevalence of these diseases and their associated risk factors is generally greater among Black non-Hispanic people and those from other minority groups, and among people with low incomes. Most of these diseases are associated with several common risk factors such as overweight and obesity, physical inactivity, tobacco use and poor diet[6, 7]. The obesity epidemic and burden of chronic diseases continue to rise in Massachusetts, leading to suffering, disability, deaths and huge economic costs. Chronic diseases can be prevented by eliminating shared risk factors including tobacco smoking, unhealthy diet, physical inactivity and harmful use of alcohol[8]. The description of the disease burden for each of the leading chronic diseases is summarized below.

Cancer continues to be a leading cause of morbidity and mortality and includes breast, cervical, prostate, lung, colorectal, ovarian and skin amongst the most common cancers reported. Risk factors for some cancers can be minimized through behavioral changes, vaccines or antimicrobials, as well as regular screening for early detection that can lead to early detection and treatment.In 2008, for the third year in a row, cancer was ranked first in the number of all deaths in Massachusetts, accounting for 24% of all cancer deaths, and the lung cancer mortality rate was the highest among all cancers[9]. Among women, breast cancer was the most commonly diagnosed cancer, while among men prostate cancer was the most common[10]. In addition to the morbidity and mortality burden, cancer is costly. In 2008, the National Institutes of Health estimated the overall cost of cancer in the US was $228.1 billion[11].

Cardiovascular disease (CVD) kills more people in Massachusetts and the nation than any other disease [12, 13]. The most familiar and deadly form of CVD is coronary heart disease (CHD), which leads to heart attacks. In 2008, heart disease was the second leading cause of death in Massachusetts, accounting for almost a quarter (24%) of all deaths. The age-adjusted mortality rate for heart disease was 165.5 deaths per 100,000 [14]. Heart disease deaths occur predominantly among the older population. Eighty five (85%) of all heart disease deaths occurred among people 65 years and older and the heart disease death rate for men was 61% higher than the rate for women. In Massachusetts the heart disease death rate has declined by 24% since 2000[15]

In 2008, stroke was the third leading cause of death in Massachusetts. The age-adjusted mortality rate for stroke was 33.7 deaths per 100,000[16]. This rate has declined by 34% since 2000. Blacks had a higher stroke death rate than Whites (45.5 vs. 33.6 per 100,000). Not only are cardiovascular diseases a leading cause of death, they are also a major cause of permanent disability. Nationally, they are the most costly group of diseases, with an estimated $475 billion in both direct and indirect costs in 2009[17].

In 2010, 7.4% of the Massachusetts adults reported that they have been diagnosed with diabetes and 4.9% with prediabetes[18]. There has been nearly a 75% increase in diabetes in Massachusetts since 1994 in part, due the increase in overweight and obesity during the same period.

In 2009, 24.8% of Massachusetts adults reported having been diagnosed with arthritis by a doctor or other health professional with 43.5% of these reporting arthritis-attributable activity limitations[19]. Arthritis is more prevalent among women (30%) compared to males (20%) and among white non-Hispanics (26%) compared to other racial/ethnic groups. Adults reporting doctor-diagnosed arthritis are more likely to have other chronic conditions such as diabetes, high blood pressure, cholesterol, and asthma[20].

Asthma is a growing public health problem that affects the lives of many individuals in the United States and Massachusetts. Massachusetts has one of the highest rates for asthma in children. In 2010, the prevalence of current asthma among Massachusetts adults was 10.8%, a 27% increase from 2000 and among children the asthma rate was 9.3%[21]. From 2005 through 2007, while there were no differences across racial and ethnic subgroups, current asthma was higher among adult females, male children, adults and children in households with low educational attainment, adults and children in households with incomes less than $75,000, adult smokers, and adults with disabilities. However, children from birth to four years of age, adults

ages 65 and older, and Black and Hispanic residents have much higher rates of hospitalization due to asthma compared to the overall state rate[22] Asthma is the number one cause of childhood hospitalization.

Common risk factors for chronic diseases include overweight and obesity, physical inactivity, tobacco use and poor diet[23]. Currently, more than half of Massachusetts adults are either overweight or obese. Approximately 25% of high school youth and more than a third of children ages two to five years participating in the WIC program are either overweight, or at risk of becoming overweight. People who are overweight or obese are more likely to have type 2 diabetes, heart disease, stroke, gall bladder disease, and musculoskeletal disorders. Of Massachusetts adults, 14.1% were current smokers. In 2009, 16% of high school students were current smokers, 11% were what is now considered obese, and 16% were what is now considered overweight.

Over 20% of Massachusetts adults reported participating in no leisure time physical activity, and only 26% consumed 5 or more servings of fruits and vegetables[24]. Of Massachusetts high school students, only14% ate 5 servings of fruits and vegetables[25].

Existing partnerships and statewide or local Healthy Community Coalitions
Several categorical programs within the Division work closely with statewide and local partnerships and coalitions to address chronic diseases throughout Massachusetts using policy, systems and environmental change strategies. The following is a brief description of some of these partners.

- The *Comprehensive Cancer Advisory Committee* generally meets monthly to provide input into developing policy, systems and environmental change strategies that support cancer prevention and control. They also assisted with the development of the five-year state plan.
- The *Diabetes Coalition of Massachusetts* (DCOM) advocates for diabetes education, prevention, diagnosis, and management in all populations in the state. The Executive Committee of DCOM is responsible for overall policy and direction of the coalition, and has been meeting bi-monthly. The coalition is currently considering reorganization.
- The *Partnership for a Heart-Healthy, Stroke-Free Massachusetts* is a statewide coalition of organizations and individuals dedicated to preventing and reducing heart disease and stroke, responding rapidly when heart attack or stroke occurs, and improving healthcare systems in Massachusetts. The *Partnership* publishes a progress report and statewide action plan.
- The *Massachusetts Asthma Action Partnership* (MAAP) is dedicated to improving quality of life for all people with asthma and reducing asthma health disparities in the Commonwealth. The full membership meets twice a year, and the steering committee meets every other month by telephone. MAAP also helps to develop and implement the state asthma plan.
- The *Massachusetts Health and Disability Network* participates in the strategic planning process guided by the Massachusetts Office of Health and Disability to develop the comprehensive state plan.
- *Tobacco-Free Mass* advocates for funding and policies that support tobacco prevention and reduction of the public's exposure to secondhand smoke. The general membership meets quarterly, with smaller work groups that meet monthly.
- *MassHealth* is the state’s Medicaid program, and provides comprehensive health insurance,

or assistance in paying for private insurance, to children, families, seniors, and people with disabilities.

- The *Massachusetts League of Community Health Centers* is a non-profit statewide association that represents the state's 52 community health centers and provides expert information on community-based health care.
- The *Department of Elementary and Secondary Education*, one of the two state education agencies in Massachusetts, is currently working with the Department on finalizing and implementing school nutrition regulations for foods and beverages in public schools
- *Masspro* is an independent performance improvement organization that collaborates with CMS and MassHealth, among other key partners, on quality improvement initiatives.
- *Massachusetts Area Health Education Center* aims to increase access to quality health care through the development of community-academic educational partnerships.

Public health policies that have been developed and implemented The Population Health Management pilot is being conducted in a network of 31 primary care practice sites to enhance the use of Electronic Health Record reports to improve the control of diabetes, blood pressure, cholesterol and decrease tobacco use. Staffs from three programs (Diabetes, Heart Disease and Stroke, and Tobacco Control) are involved. Having a single statewide plan would help create a map and timeline for adding additional diseases to these health systems interventions and link with community interventions.

Opportunities for development and implementation of public health policies
Individual chronic disease programs have begun to identify opportunities for collaborative activities to design and implement policy, systems and environmental change interventions within selected venues. For example, the State's ***Mass in Motion Municipal Wellness and Leadership Grant*** program in 14 communities provides technical assistance and training to plan and implement policy, system and environmental changes to support and sustain healthy eating and active living. An established priority initiative for the state, this model serves as a ready-made foundation for the expansion of new policy, system and environmental strategies to support risk reduction for all of the chronic diseases.

For a more pictorial representation of how the Division interacts with some of these partners, refer to the grid of external collaborations (Appendix A).

2. <u>Program Management and Leadership</u>
Existing management and their credentials
Three senior managers will devote time to realign and restructure the Division. Cheryl Bartlett, Director of BCHAP will serve as the PI on this grant and will provide overall guidance and oversight to the program. Ms. Bartlett also serves as the appointed NACDD, Chronic Disease Director for the Department. and has held a leadership position overseeing the implementation of the Chronic Disease Integration Demonstration Project. In that role she has lead the Division through a 2-year strategic planning process to evaluate readiness for organizational change, as well as to identify common goals and objectives for all the current categorical chronic disease programs. Prior to her coming to the MDPH, Ms. Bartlett had extensive experience as a registered nurse and hospital administrator implementing health systems changes through quality assessment and improvement efforts. She has also lead Healthy Communities initiatives in

several regions across the state to address social determinants that impact the burden of disease. She will provide overall leadership for the activities outlined for this program.

Ms. Lea Susan Ojamaa, Acting Director of the Division, will hire and supervise new staff and provide over-all management of the program. She will manage integration activities until the Integration Manager is hired. Ms. Ojamaa's position will be fully supported by this grant. Ms. Ojamaa has worked at MDPH since 2000 and has extensive experience managing local, regional and statewide policy promotion initiatives for tobacco control, active living, healthy eating and healthier communities. The focus of her work has been on policy, systems and environmental change strategies for healthy communities, chronic disease and associated risk factors.

Dr. Thomas Land is the Director of Statistics and Evaluation for BCHAP. Dr. Land supervises all of the Division's Evaluators, Epidemiologists and the full-time Data Analyst funded by this grant. Prior to becoming the Director of Statistics and Evaluation for BCHAP, Dr. Land served as Director of Research and Evaluation for the MDPH Tobacco Cessation and Prevention program for the past 5 years. MDPH requests funding for 10% of Dr. Land's position for his guidance on evaluation, data analyses and supervision of staff.

Our participation in the Integration Demonstration Project and the Division's strategic planning process has highlighted areas integral for moving forward with integration. These include realigning existing staff, hiring additional staff and providing staff with additional training.

In order to effectively implement a coordinated plan across multiple categorical programs within the department, as well as with external partners, cross-cutting positions are needed to manage the planning, development, implementation and evaluation of collaborative initiatives. Additional staff are needed to manage integration efforts, direct communications and provide expertise on public health policy. Furthermore, with additional budget cuts looming the Division is also requesting funding for current positions that are key to integration: an epidemiologist and a fiscal manager. Please refer to Appendix B for reporting structure of staff funded as part of this application. MDPH requests funding for external experts to provide assistance in the first year of this grant cycle in the areas of professional development, strategic planning, and coalition and partnership development.

Future leadership and management staff to support coordination and collaboration
A key new staff person for integration will be a full-time Integration Manager within the Division at BCHAP. This person will provide overall leadership for integration and coordination within the Division and Bureau as well as with external partners. This position will manage the deliverables of this grant and oversee planning, development and implementation of the state plan. In addition, s/he will provide leadership for the development of the Healthy Communities Coalition, its leadership team, workgroups and infrastructure. Coalition/ partnership development is critical to this program and the Integration Manager will spend much of his/her time cultivating these relationships. This person will also oversee the Director of Communications, and the Program Assistant, Darlyn Beaujour and s/he will coordinate activities with the Policy Director and Evaluation staff. Once MDPH receives a formal notice of award, Ms. Ojamaa will work with our Human Resources department to post the job as a Manager V. The process of recruiting and hiring is anticipated to take about 60 days. There are potential internal candidates

for this position.

If awarded full funding, a new full-time Director of Communications position will be created and immediately posted. Coordination of communications across the Division is a primary need that has been identified. This is a function MDPH had in the past, but due to state budget cuts, this position was eliminated. This person will provide leadership for the development and implementation of a comprehensive and integrated communications plan. This plan will include communications to both internal and external partners through print, websites and social mediums and include information for consumers, disparate populations, stakeholders and decision makers. This person will oversee existing communication staff and communication activities that are currently funded by categorical programs.

A public health policy expert is a key position needed by the Division to provide leadership in the development and implementation of a coordinated chronic disease policy agenda. If funded, Dan Delaney will serve as the Director of Health Policy for the Bureau and be responsible for developing and implementing the Division's policy agenda. Though Mr. Delaney is an existing staff person within MDPH, this is a new position in the Division and his role and responsibilities will be realigned once MDPH receives formal notice of award. Mr. Delaney will report to Cheryl Bartlett, Bureau Director and he will work closely with Lea Susan Ojamaa and Integration Manager.

Staffing Plan and Quarterly Milestones to fully staff collaboration and integration effort
With full funding, the Division will have 7.6 FTEs including: the full-time Division Director, Integration Manager, Director of Public Health Policy, Director of Communications, Data Analyst, Fiscal Manager and Program Assistant. Resumes for existing positions and job descriptions for positions to be created can be found in Appendix C. In addition, the Director of BCHAP's time devoted to developing an integrated chronic disease program will be in-kind. As a result of our participation in the Integration Demonstration Project, we have revised our existing staffing structure within the division, so that staff are shared among programs. However, funding for most positions still remains categorical. Funding from this grant will afford us the opportunity to realign funding for two positions whose responsibilities are Division-wide; the Fiscal Manager, Maria Arguedas and Program Assistant, Darlyn Beaujour. As the Fiscal Manager for the Division, Ms. Arguedas is responsible for the management of all grants and contracts within the Division. She monitors expenditures throughout the fiscal year and works collaboratively with Lea Susan Ojamaa and other appropriate staff to ensure appropriate allocation of funds. Darlyn Beaujour, Program Assistant supports the Division and will be responsible for assisting the Division Director and Integration Manager to coordinate activities. This will include organizing internal and external meetings, preparing materials, disseminating and administrative support.

Coordination of surveillance and evaluation efforts is fundamental to all initiatives within the Division and will be especially needed for integrating interventions. Dr. Thomas Land, the Director of Statistics and Evaluation for BCHAP, is streamlining surveillance and evaluation across the Bureau and within the Division. He has realigned staff responsibilities and work flow across categorical programs. As we move toward a coordinated chronic disease program Joshua Vogel will work across the Division as the Data Analyst. We are requesting that this position

will be fully funded through this grant. In addition, we request funds for an epidemiologist who will work within the Bureau of Health Information, Statistics, Research and Evaluation (BHISRE), and will be responsible for data analysis and provide data for MDPH and community requests. This position will be split funded with BHISRE, therefore this grant will support 0.5 of the position. On notice of grant award, we will recruit immediately.

Current staff within the Division have clinical, contract management and content expertise needed to support programs. They have the expertise integral for our reorganization and realignment of our Division. Staff within the Diabetes and Heart Disease and Stroke Prevention and Control Programs and Women's Health/Men's Health Care Coordination Program, for example, have expertise on the delivery and use of clinical preventive services including screenings for cancer, diabetes, blood pressure and lipids. Staff within the Wellness Unit and Office of Community Liaisons have expertise on policy and environmental strategies to increase healthy eating and active living in schools, worksites and communities. Staff within the Office of Healthy Aging and Disability, Diabetes and Heart Disease and Stroke Prevention and Control Programs and Women's Health/Men's Health Care Coordination Program have expertise in community programs to support chronic disease self management.

Staff development and training is a priority for developing and implementing a coordinated chronic disease prevention and health promotion program. As programs shifted their emphasis toward creating and facilitating policy, systems and environmental changes, it became clear that staff could benefit from training in this area. At the same time, recent travel and budget restrictions have greatly limited training opportunities that require out-of-state travel and many programs can send no more than two people to required annual CDC-sponsored conferences. As a result, BCHAP has increased its efforts to train staff locally.

Representatives from the Massachusetts Municipal Association and Massachusetts Association of Health Boards presented "Civics 101" to the entire Division of Prevention Wellness in November 2010, on how local and state laws are passed, the difference between lobbying and advocacy, and how ordinances and regulations are handled by different municipalities. In December 2010, 100 staff members from throughout the Department, but primarily from BCHAP, were trained in *Shaping Policy for Health*. This day-long training is a product of Directors of Health Promotion and Education, and develops competency in policy, systems, and environmental change strategies to improve health outcomes and reduce disparities. In March 2011, 30 staff participated in the two-day Level 2 training for Domain 1 (defining the problem). We are scheduled to complete the two-day Level 2 training for Domain 2 (policy analysis to identify solutions) in October 2011. Thirty staff will attend this session.

We will continue to offer the *Shaping Policy for Health* curriculum to internal staff and partners. Trainings to date have been offered only to internal staff, but we will develop a training plan to include external partners. If fully funded, the Division Director, Integration Manager and Director of Public Health Policy will contract with the Directors of Health Promotion and Education to offer one Level 1 training and two Level 2 trainings. Decisions will be made to either repeat Domains 1 or 2 or continue trainings in additional areas. Through training evaluations and needs assessments of internal and external partners we will be determine how to proceed. Please refer to Appendix D for the plan ensuring appropriate staffing and training with

milestones. The current organizational structure for the Division of Prevention and Wellness (Division) is in Appendix E.

3. Surveillance and Epidemiology Capacity

How surveillance and epidemiology data will be used to identify needs (inclusive of health disparity) and gaps The Division uses annual BRFSS data and small area estimates (SAE) methodology to determine the geographic distribution of disease and risk and small domain estimates (SDE) to assess subpopulation prevalence. While direct estimation methods are more common, small area and small domain estimates have been shown to be more accurate.[26] They also provide much greater detail. Using the current BRFSS sampling scheme, SAE and SDE will provide accurate estimates of disease and risk factors for over 400 geographic units in Massachusetts including 11 neighborhoods in Boston alone. Furthermore, the Division has expertise in SAE methodology, particularly with SAE to prioritize public health efforts.[27]

The Division already has small area estimates for diabetes. SAE for 5 risk factors have been computed in the last 12 months (i.e., smoking, obesity, physical activity, nutrition, and hypertension). Currently, evaluation staff in the Division are being trained in the statistical approach required to compute SAE and SDE. Epidemiologists across the Division have been trained in GIS mapping techniques. In times of shrinking budgets, we carefully target resources to areas and populations with high rates of disease. Since chronic diseases and the risk factors associated with them are not distributed randomly through the population, small area estimates and small domain estimates describe the distribution of disease and risk while GIS plots the literal map of where to start. This funding will permit others to be trained and speed the process of realigning our programmatic efforts to match the underlying distribution of disease and risk.

To specifically address disparities, the Division will develop a "disparities index" to assess the imbalance of disease, risk, available services, and programmatic efforts. The index will be a ratio of disparate population to non-disparate populations. For example, MDPH may compute a ratio of prevalence of diabetes in a non-white population to diabetes prevalence among whites. Ultimately, the "disparities index" will be much more complex, but have the versatility for use with a wide variety of numerical data sources. Progress on the disparities index will be tracked statewide and within geographic sub-units.

Once the distribution of disease and risk are adequately mapped, gaps will be determined by overlaying services onto the geographic and subpopulations for disease and risk. For example, we would overlay current or planned public health programmatic efforts or data on medically underserved areas and populations onto our SAE and SDE.

Plan, implement and evaluate programs and document programmatic impact

Despite limited resources, the Division has coordinated its evaluation efforts. In the past two years, Division staff examined our BRFSS and YRBS surveillance and developed a plan to ensure that rotating questions would be asked on a schedule that provided the most relevant information on chronic disease co-morbidity. MDPH will schedule the evaluation of programmatic work so it works in concert with other efforts. If two communications campaigns are planned for the same region, we will combine the evaluation of the campaigns. This will be cost effective and will also encourage previously separate chronic disease programs to work

more closely together.

Members of the evaluation and epidemiology staff will be included in the planning and implementing of Division programs. In these preparatory meetings, SMART objectives will be developed and the evaluation of those objectives will be determined from the outset. Evaluation plans for all programs will include standard measures for tobacco use, obesity, nutrition, physical activity, and hypertension. Final reports that document program impact will make explicit reference to the original SMART objectives. Moreover, impact statements will be expressed in terms of those objectives. Since much of chronic disease can be linked to risk factors, final reports also will include explicit statements about the separate impact of tobacco use, obesity, nutrition, physical activity, and hypertension on the SMART objective.

Data collection and data coding will be linked, streamlined, and standardized. In FY10, the Division received funding for the Council of State and Territorial Epidemiologists (CSTE) Data Linkage Pilot. The pilot had a geographic perspective; databases were linked by town of residence and zip code. Included in the linked data set was information about hospital discharges, individual BRFSS responses, the MDPH Community Survey, town level US Census data, Mortality/Vital Records Database, and Medically Underserved Areas and Populations. MDPH plans to add more databases to this linked system and make the data available to all Division evaluators. Since individual the data sets are linked using geographic identifiers, the linked data has particular value to planners who look to target programs in areas with high needs for multiple diseases and/or risk factors. Other pertinent data will be added to the linked data as it become available. In addition, all SAE will be incorporated into the linked data set including 5 and 10 year projections for individual geographic areas.

Current overlapping efforts will be streamlined. For example, each program currently develops separate burden documents. Beginning in FY13, a common statewide burden document will be prepared. Co-morbidities will be highlighted in this document using GIS maps. Writing a common burden document will require programs to share software code to ensure that “disease definitions” are identical. When complete, a repository of commonly used chronic disease code will be made available to all MDPH staff. By 2013, “all HIPAA transactions, including outpatient claims with dates of service, and inpatient claims with dates of discharge on and after October 1, 2013” must use ICD-10-CM diagnosis codes instead of the current ICD-9-CM system. Early in FY12, MDPH will begin to translate all code that uses ICD-9-CM codes to include ICD-10-CM codes during this bridge period. This will affect the All Payers Claims Database (APCD), Massachusetts Inpatient Hospital and Emergency Department Discharge Databases, and others.

Finally our evaluation planning also will account for the progression of chronic disease once the APCD becomes available. At that point, we will be able to track claims for individual patients (de-identified) not just hospital discharges or self-reports of disease and risk. Currently, there is an absence of readily available clinical and risk factor data that is longitudinal. In time, this deficiency will be resolved when data becomes available through the APCD and data repositories associated with the Affordable Care Act. With the passage of Health Reform in Massachusetts, health plans are now required to submit all medical claims to an APCD. Massachusetts is one of only 11 states with an APCD.

A general Systems Dynamic Modeling Framework (see Appendix F) will highlight the transition from good health to at-risk to diagnosis to complications. With the APCD, we will assess whether our programmatic efforts relate to population trends showing fewer people progressing to unhealthier states and more people returning states of controlled disease.

Educate the public and stakeholders regarding the burden of chronic diseases and their associated risk factors The primary channel for educating the public using surveillance and epidemiology data will be through the internet. Since much of the surveillance will focus on geographic rates and changes, the information we disseminate to the public will also be geographic. We will use the Tobacco Automated Factsheet Information (TAFI) system will be used as a template for developing local chronic disease factsheets. TAFI is web-based on currently used to deliver factsheets for all 351 cities and towns in Massachusetts about tobacco use and the burden of tobacco use on local communities. The TAFI report generator is modular and the underlying data system is dynamic so new "non-tobacco" reports can be added. TAFI would not be the acronym used to describe chronic disease factsheets. No new acronym has been established. When new data becomes available, TAFI-based reports are updated automatically. In addition to the factsheets, stakeholders would also be briefed on the information contained in the common burden document described above.

Enhance chronic disease prevention and health promotion program coordination and collaboration through communication Disease prevention and health promotion will be enhanced by using more effective channels to disseminate surveillance information. Awareness of which communities are most affected by chronic disease and how risk factors are distributed can create an opportunity for a new dialogue with the public, healthcare providers, and stakeholder groups. Information that diabetes rates are higher in one part of the state or that African Americans have less access to primary care in other parts will be conveyed in a clear manner to relevant audiences.

Currently, each program within the Division has its own page on the state's website (www.mass.gov). Formats vary and local information is sparse. With this funding, we propose to work with the Director of Communications to create a user-friendly website for chronic disease information, which will include local data. All audiences are likely to find new information in the GIS maps showing the geographic distribution of chronic disease, risk factors associated with chronic disease, co-morbidities, and rates among subpopulations. These maps will become central to the new appearance of the website.

To further enhance the local focus, an online automated fact sheet will be developed that is patterned after the TAFI system used by tobacco program at MDPH. This is described above. Local fact sheets will have a primary focus (e.g., arthritis), but all other chronic disease programs will review and collaborate on final report design.

Develop or update the state chronic disease prevention and health promotion plan
As mentioned above, a common burden document will be prepared for the chronic diseases in the Division. Since asthma significantly impacts the Massachusetts population and shares risk factors with other chronic diseases, asthma will be included in the common burden document. This report will provide a current snapshot of chronic disease in Massachusetts. Not included in a

typical burden document is a sense of where the trends are headed for chronic diseases and their associated risk factors. Future "hot spots" can be projected that account for trends in risk factors and shifting population demographics. The evaluation and epidemiology staff will work with the Division staff and stakeholders to ensure that state prevention and promotion plans focus on trends as well as current burden. Furthermore, by looking at SAE, SDE, and program plans, we can also ensure that realistic long-term numerical goals can be set.

Identify public and private health care partners By focusing our efforts on developing accurate local and subpopulation data, MDPH will simultaneously develop information relevant to many public and private partners. As a result of our work, individuals will know how their community compares to others. Municipal governments will know the disease rates in their community and surrounding communities. Policy makers in these communities will know the prevalence of risk factors when planning and promoting new policies. Groups representing disparate populations (e.g., racial & ethic minorities or LGBT groups) can be more effective advocates for change if they have information on the specific burden on their groups. Hospitals can more effectively plan for the care of the public if they have the current and future burden of chronic disease. And health insurers can focus more on paying for health rather than services delivered if they better information on the interrelationships between chronic disease and risk in the communities they serve.

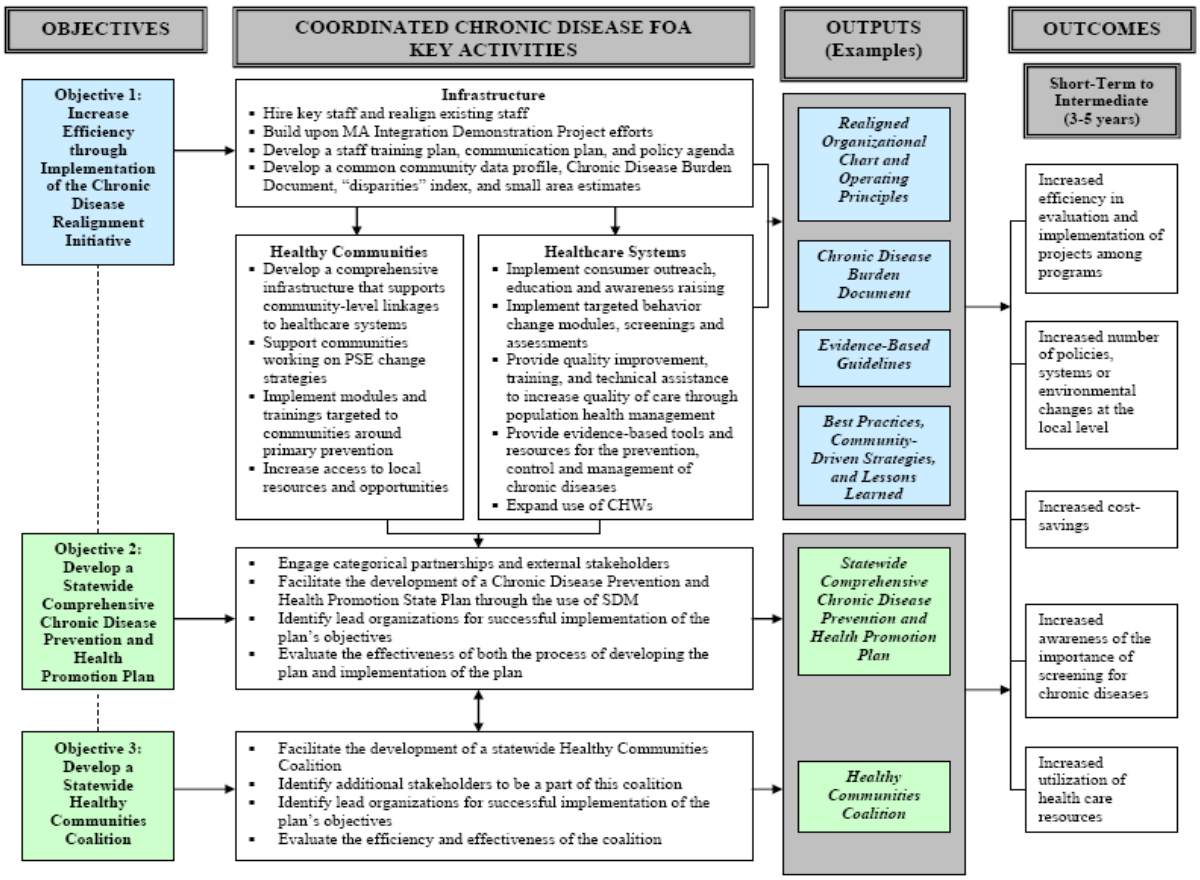
Accomplish objectives and outcomes With an effective evaluation and epidemiology team, the Division will make a significant impact on chronic disease rates in Massachusetts. Because the evaluation and epidemiology team has been included as part of the routine planning of program initiatives, we can foster a collaborative environment where objectives are specific and decisions are data driven.

4. Evaluation

Our evaluation plan will be based upon the logic model encapsulated below. It should be noted that this is a condensed version of the larger logic model that includes inputs and long-term outcomes (See Appendix G). The three main components of our evaluation plan will be to measure the realignment of our operations and infrastructure, development of a comprehensive Chronic Disease Prevention and Health Promotion Plan, and development of a statewide Healthy Communities Coalition. Logic models permit program managers and administrators to define work plans and create appropriate measurement tools.

Logic Model Objective 1 (Realignment of our operations and infrastructure): As illustrated by the logic model below, the core of this plan is the standardization of measures and use of common channels for dissemination. We will use Small Area Estimates, the APCD, and System Dynamics Modeling to monitor progress toward goals and assess outcomes. As these are simply statistical tools and multi-faceted databases, evaluation and staff can perform across disease categories. Through System Dynamics Modeling and the re-administration of a Statewide Community Survey we provide a framework to describe the progression of population trends as direct results of our programmatic efforts. In addition, measures of impact and success will also include conducting a cost-savings analysis from both a programmatic and a burden of chronic disease perspective.

Logic Model Objectives 2& 3 (Development of a comprehensive Chronic Disease Prevention and Health Promotion Plan and Development of a statewide Healthy Communities Coalition): The second and third objectives in the logic model address the development of statewide plan and the associated coalitions. As described in the **Background and Need** section, Massachusetts has been involved in the Integration Demonstration Project that included a national effort to evaluate our IDP activities. The purpose of this evaluation was to measure progress toward the implementation of chronic disease integration and to measure staff's knowledge attitudes and behaviors regarding integration. Having been involved in this evaluation, based on the 10 Essential Public Health Services (EPHS) framework, we are well positioned to build upon the work completed thus far. From a programmatic and process evaluation standpoint, we plan to use the same IDP evaluation framework to guide our own internal process evaluation of the realignment, the development of the plan, and the development of the coalition.



System Dynamics Modeling (SDM) will be used to help facilitate the development of the state plan, while Small Area Estimates and claims data will provide the baseline outcome data needed to define the problem and measure change. See *State Chronic Disease Prevention and Health Promotion Plan* section for more details on SDM. To evaluate our progress toward integration, two sets of interviews will be conducted with key stakeholders involved in the process of developing this plan and forming the coalition. The first set of interviews will happen within the first two months into the four-month planning process and the second set of interviews will occur two months after the process of developing the plan has been completed. A qualitative analysis of the two sets of interviews will be used to measure change in knowledge and attitudes among

key stakeholders (both internal and external) regarding efforts at increasing efficiency and decreasing duplication in addressing chronic disease prevention and management, development of a feasible state plan, and forming a statewide coalition.

The table below links together the elements of the logic model, the surveillance and epidemiology plan in Section 3, and the efficiencies derived from both the realignment as well as the coordinated plan.

Logic Model Objectives	Main Evaluation Questions	Method of Data Collection	Savings Through Increased Efficiency & Outcomes Addressed
Objective 1: Increase Efficiency through Implementation of the Chronic Disease Realignment Initiative	Were DPW programs more efficient in achieving programmatic success as a result of the realignment?	Staff surveys, key informant interviews and focus groups based on the 10 Essential Public Health Services	• Increased efficiency in evaluation and implementation of projects among programs
	What did the realignment look like and who were the key players?	Staff survey, key informant interviews and focus groups based on the 10 Essential Public Health Services	• Increased efficiency in evaluation and implementation of projects among programs
	Were inroads made around chronic disease and risk factor health outcomes related to programmatic efforts in the realigned DPW?	Statewide Community Survey, All Payers Claims Database, BRFSS Small Area Estimates, GIS Mapping, Utilization of Indexes	• Increased # of policies, systems or environmental changes at the local level • Increased cost-savings • Increased utilization of health care resources • Increased awareness of the importance of screening for chronic diseases
Objective 2: Develop a Statewide Comprehensive Chronic Disease Prevention and Health Promotion Plan	Who were the key stakeholders in the development of the plan?	Collaboration Survey, key informant interviews and focus groups based on the 10 Essential Public Health Services	• Increased efficiency in evaluation and implementation of projects among programs
	Was System Dynamics Modeling a useful framework for the facilitation and development of the state plan?	Key informant interviews and focus groups based on the 10 Essential Public Health Services	• Increased efficiency in evaluation and implementation of projects among programs
	What were the impacts (process and outcome) as a result of the plan's implementation?	All Payers Claims Database, BRFSS Small Area Estimates, GIS Mapping, Utilization of Indexes	• Increased # of policies, systems or environmental changes at the local level • Increased cost-savings • Increased utilization of health care resources • Increased awareness of the importance of screening for chronic diseases
Objective 3: Develop a Statewide Healthy	Who were the key stakeholders in the development of a Healthy Communities Coalition?	Collaboration Survey, key informant interviews and focus groups based on the 10 Essential Public Health	• Increased efficiency in evaluation and implementation of projects among programs

Logic Model Objectives	Main Evaluation Questions	Method of Data Collection	Savings Through Increased Efficiency & Outcomes Addressed
Communities Coalition		Services	
	What were the drawbacks and benefits to creating, participating, and implementing a Healthy Communities Coalition?	Collaboration Survey, key informant interviews and focus groups based on the 10 Essential Public Health Services	• Increased efficiency in evaluation and implementation of projects among programs

5. <u>State Chronic Disease Prevention and Promotion Plan</u>

Strategies to Improve Policies, Environments, Programs and Infrastructure Through its work on the IDP, MDPH has already made several successful steps toward integration, including:

- **Combining chronic disease surveillance and monitoring**. We created a Massachusetts Disparity Report Card, developed a common set of chronic disease indicators and linked chronic disease databases.
- **Intensive strategic planning with program leaders**. Programs within the Division have identified opportunities to align activities that are cross-cutting, identified the healthy community's model as the framework for planning policy interventions and have a team approach in venue-specific interventions.
- **Training of staff on cross-cutting topics**. Epidemiologists across the Division were trained on GIS mapping and representatives from all programs have completed the first domain of the Directors of Health Promotion and Education's *Shaping Policy for Health* curriculum.

This new integration effort will build on a history of collaboration between chronic disease programs at MDPH and strong collaborations with external partners. The individually funded chronic disease programs in the Division of Prevention and Wellness (Arthritis, Asthma, Comprehensive Cancer, Diabetes, Heart Disease and Stroke, Nutrition and Physical Activity and Obesity) and their external partners are committed to coordinating efforts and are eager to integrate work, starting with the development of the *Massachusetts Chronic Disease Prevention and Health Promotion Plan*.

The System Dynamics Modeling (SDM) framework will be used for the ***development and evaluation*** of the *Massachusetts Chronic Disease Prevention and Health Promotion Plan*. SDM is a methodology for mapping and then modeling the impact of forces of change in a complex system, including public health (Homer, 2006). At the core of the model is a flow chart portraying the movement of people in and out of the following stages (See Appendix F):

- healthy people,
- people at risk of developing a disease or condition,
- people diagnosed with a disease but without complications,
- people diagnosed with a disease who also have complications

What makes SDM an ideal framework for the creation of an integrated state plan is that it helps partners develop a clear understanding of the dynamics of chronic diseases and lays the foundation for setting realistic and achievable goals. SDM utilizes disease outcomes, health and risk behaviors, environmental factors, health-related resources, and delivery systems, which in turn will create measureable plan objectives that are mutually agreed upon, realistic and

achievable in the given time frame.

To facilitate the process of developing the state plan within four months, MDPH will hire two consultants through a "quick bid" process from among the approved vendors on the Master Service Agreement. One consultant will specialize in system dynamics modeling (SDM), and will lead the group in using SDM as a framework for developing and evaluating the state plan. The second consultant will specialize in strategic planning and policy development, and will facilitate a process with all partners to develop a final plan ensuring that it reflects the resolve and commitment of all stakeholders. Over the first four months of the grant award period, the core stakeholders will work with these consultants to develop a practical and achievable framework for a state plan focused on improving policies, environments, programs, and infrastructure to achieve measurable health improvements in rates of heart disease, stroke, diabetes, cancer, arthritis, obesity and asthma. This process will involve at least five face-to-face meetings, as well as some work via teleconferencing and email.

Within the first week of being awarded the grant, MDPH will begin planning for the first face-to-face meeting, and post the Integration Manager position. The first meeting of the core internal and external stakeholders will take place no later than October 31, 2011. The Integration Manager will be hired no later than November 30, 2011. Prior to the end of December 2011, at least four meetings of the stakeholders will have been held. An initial draft of the state plan will be presented at the fifth meeting, to take place in January 2012. Please refer to the table below.

Between February and May 2012, the Strategic Planning consultant, the Integration Manager, and evaluation staff will meet with each coalition to present the state plan, and gain insight and feedback. This process will facilitate the integration of a single larger Healthy Communities Coalition. Also throughout these months, the core stakeholders will work to develop operating guidelines for the Healthy Communities Coalition including meeting schedules, infrastructure, member roles and responsibilities, and other logistics. The finalized state plan will be presented at the first meeting of the newly-formed statewide Healthy Communities Coalition in June 2012. The two work groups will be established during this meeting and begin the work of implementing the plan.

The Integration Manager will be responsible for overseeing all actions of the coalition, ensuring that the work of the plan is moving forward. S/he will be required to continue to develop relationships with stakeholders and identify new partners to strengthen the work of the coalition. MDPH's goal is that the *Massachusetts Chronic Disease Prevention and Health Promotion Plan* will represent a fully integrated approach to addressing chronic disease prevention and management across agencies to eliminate duplication. The plan will be data-driven, with clear objectives and measurable outcomes. It will be a living document that will be updated annually by the Integration Manager together with the stakeholders and multiple partners. Please refer to Appendix H for the timeline and activities for creating the *Massachusetts Chronic Disease Prevention and Health Promotion Plan.*

Strategy for Engaging Partners Each of the individual disease-specific programs within the Division has developed partnerships, coalitions or advisory groups related to the specific diseases and interventions, some of which have collaborated on disease-specific state plans

(Appendix I). The section on **Background and Need** contains a description of the various partnerships and coalitions. MDPH is developing new opportunities for collaborating with these partners, using more comprehensive ideas for implementing policy, system and environmental strategies. These opportunities are central to an integrated approach to chronic disease prevention For example, the Asthma Program works closely with Community Health Workers to implement the READY Program (Reducing Ethnic/Racial Asthma Disparities in Youth) and the Asthma Disparities Initiative. These projects are dedicated to reducing in-home asthma triggers for pediatric asthmatics, and utilize Community Health Workers who visit patients' homes. The Community Health Workers also improve communication between families and their health care providers. Concurrently, the Women's Health Network (Breast and Cervical Cancer and WISEWOMAN programs) is also creating modules for Community Health Workers to educate individuals about risk factors for cancer, including the promotion of healthy eating and active living, and encouraging regular screening. The opportunity to build upon the successes of the Community Health Workers in these initiatives became obvious in our internal strategic planning meetings. Creating a single statewide plan will integrate and coordinate these efforts in the immediate future.

Starting in 2004, we held several meetings with external partners to discuss developing an intersecting chronic disease partnership and a single statewide chronic disease plan. Representatives from the executive committees of the Partnership for a Heart-Healthy and Stroke Free Massachusetts, Diabetes Coalition of Massachusetts, Partnership for Healthy Weight, and the Comprehensive Cancer Coalition met. We explored with them the possibility of an inclusive chronic disease statewide plan, although the attending partnerships were all relatively new and most focused on establishing their own priorities and organizational objectives before committing to an integrated design. However, following those initial meetings the diabetes-, tobacco-, nutrition and physical activity-related partnerships have collaborated in developing and sponsoring statewide meetings each year.

Leaders from other coalitions have expressed the desire to integrate and combine efforts, including the Comprehensive Cancer Advisory Board, the Diabetes Coalition of Massachusetts, the Executive Office of Elder Affairs, the Massachusetts Asthma Action Partnership, the Massachusetts Area Health Education Center Network, the Massachusetts League of Community Health Centers, Masspro, Partnership for a Heart-Healthy, Stroke-Free Massachusetts, Tobacco Free Mass, and Massachusetts General Hospital's Community Health Association. In fact, representatives from four coalitions are meeting in July to explore developing a combined chronic disease coalition and statewide plan. The letters of support in Appendix J affirm their readiness to develop a single chronic disease statewide plan.

MDPH will develop the *Massachusetts Chronic Disease Prevention and Health Promotion Plan* in collaboration with these statewide disease-specific partnerships, as well as with MassHealth, Massachusetts League of Community Health Centers, MassDOT, Department of Elementary and Secondary Education, Department of Agriculture, and other key statewide organizations. Through this process, a new integrated coalition will be formed, the Healthy Communities Coalition, whose charge will be to improve policies, environments, programs, and infrastructure to address chronic disease burden in the Commonwealth. MDPH has asked core stakeholders to confirm their support of these efforts by submitting letters of support (see Appendix J) and

suggesting a representative to commit to the process of developing an integrated coalition and plan.

The Healthy Communities Coalition will work together to implement this statewide plan, with the power of a unified voice, setting a clear direction for public health policy for chronic disease risk reduction for the Commonwealth. This integrated initiative fully supports the mission of the Governor's *Healthy Massachusetts Compact*, an agreement between the Governor's Office and nine state secretariats signed in December of 2007 which builds on five key elements to achieve its goals, as appropriate within each agency's mission and authority: ensuring access to care; advancing health care quality; containing health care costs; promoting individual wellness; and promoting healthy communities.

MDPH envisions ***two working groups*** coming out of this coalition, one focused on effecting policy, systems, and environmental changes in the community (which includes schools, worksites, cities, towns, and other community settings) and one focused on effecting policy and systems changes within existing health care systems. With an emphasis on supporting the broad goals of health care reform, the workgroups of the consolidated Healthy Communities Coalition will each have a role in implementing the state plan.

Strategy for Achieving and Documenting population-wide health status improvements
Data from hospital and emergency departments discharges are available to MDPH evaluation and epidemiology staff, but they are insufficient for the purpose of showing population-wide health improvements and reductions in gaps for disparate populations. These data are often more than two years out of date and only include a portion of the population. Survey data like the BRFSS, PRAMS, YRBSS, and YHS and claims data like that housed in the Payers Claims Database (APCD) are more timely and include a more representative sample of the population. However, until there is adequate clinical diagnostic and risk factor data from sources like the APCD, MDPH will rely on self-reports of disease and risk available through surveillance systems like the BRFSS, PRAMS, YRBSS, and YHS.

Estimates of population rates, changes or improvements, and gaps will rely on these surveillance systems. The APCD has the advantage of being truly longitudinal. In contrast, self-reports are cross-sectional snapshots taken year to year or bi-annually. Confidence intervals obtained from cross-sectional survey data are likely to be wider, but they still have value in demonstrating significant changes and emerging trends. Given that fact, trends for statewide rates of disease and risk factors as well as trends for small geographic areas and sub-populations will be tracked to determine whether measureable improvements have been attained in general and for specific programs. For example, we are currently tracking adult BMI in the 14 ***Mass In Motion*** communities to see whether the prevalence trend for obesity is improving relative to the rest of Massachusetts. This will become the standard operating procedure for tracking population-wide improvements. When the APCD is fully functional, it will be possible to compute more precise measures of disease. Prevalence estimates for some risk factors (e.g., hypertension) will also be available through the APCD.

As above, the primary source of data used for assessing gaps found among sub-populations will rely on self-reported survey data. In addition to specific sub-populations, the Division also plans

to track broader disparities by developing a "disparities index" to assess the imbalance of disease, risk, available services, and programmatic efforts. Simply put, the index will be a ratio of disparate population to non-disparate populations. Higher values of this ratio will indicate larger gaps and will become of focus for attention and intervention. Just as with prevalence estimates for disease groups and risk factors, SMART objectives also can be crafted for the disparities measures. Goals to reduce gaps can be set, progress can be tracked, and success can be determined.

These surveillance mechanisms and strategies will provide capacity to document population wide improvements in health and reducing gaps in health status across population subgroups. For purposes of evaluating the impact of the statewide chronic disease plan in addition to these surveillance mechanisms, Massachusetts plans to use the SDM-specific tool PRISM (see Appendix K). This tool has the impact of evidence-based policy interventions built into the framework. Thus all stakeholders will have the information needed to select realistic and Massachusetts-specific interventions knowing the potential impact of each intervention. The tool also aids in evaluating the implementation of the state plan by allowing new Massachusetts data to be inserted into the model thus enabling progress to be measured.

Using PRISM, stakeholders will be lead through the following process to build a Massachusetts-specific plan:

- assessing and understanding current capacity and gaps
- identifying priorities
- developing measureable process and health outcomes
- determining feasibility and the impact of interventions
- identifying surveillance gaps
- allocating resources, both stakeholder commitment and needed funds
- creating a measureable feedback process to evaluate progress
- refining and updating plan based on outcomes, new data and evaluation

With the described surveillance mechanisms and SDM, a foundation can be laid for documenting health outcomes, addressing gaps and disparities, and monitoring improvements across population subgroups.

6. Organizational Structure

Prior to the state embarking on the CDC Chronic Disease Integration Demonstration Project in 2009, periodic facilitated strategic planning sessions were held with chronic disease categorical program directors. The sessions were dedicated time to learn about emerging practices, delve further into discussion to plan strategies for collaboration on policy, systems and environmental approaches to chronic disease reduction. The CDC IDP the Division the opportunity to embark on a comprehensive approach to institutionalize a process of integration, with a consolidated work plan that, in addition to program interventions, addressed infrastructure, communications and a comprehensive evaluation strategy. The chronic disease integration pilot involved the participation of the categorical programs within the Division as well as other programs within the Bureau of Community Health and Prevention (BCHAP) and several outside of the bureau, most notably the Tobacco Control Program and BRFSS. The organizational structure developed for the integration project includes a Leadership Team, Steering Committee and Workgroups. The

steering committee provides the overall guidance to the initiative in conjunction with the BCHAP Director. Several workgroups have set the foundation for realigning our structure and integrating our approach to reducing the burden of chronic diseases. Project leadership adopted the Department's mission of *helping people lead healthy lives in healthy communities* to guide the planning and implementation of the initiative.

A set of guiding principles was established by one of the workgroups as one of the first developmental activities. These principles were intended to promote the formation of synergies that advance chronic disease prevention goals and objectives and include:

- Articulating the Department's vision for creating healthy communities through an ongoing dialogue among internal Department programs;
- Prioritizing joint goals against current program-specific tasks to mutually benefit staff, providers and communities;
- Considering function over structure in identifying work groups and opportunities for collaboration on common goals, activities, interests and outcomes;
- Respecting staff expertise and identifying and employing opportunities for informal leadership, varied decision-making opportunities/strategies and mentoring;
- Recognizing that comprehensive evaluation of initiatives that adds to the evidence base for chronic disease and other related risk factors is fundamental to program development and implementation; and
- Valuing and implementing innovation and creativity, including the employment of evidence-based improvisation, to (a) realize program goals and objectives and (b) achieve staff development through (1) mentoring-based supervision, (2) assessment of individual training and skill-building needs, (3) the identification and support of continuing education opportunities, and (4) the development of expanded, creative working relationships.

These guiding principles and organizational structure will serve as the basis for enhancing our collaborative efforts both within the Division and with external partners as the *Massachusetts Chronic Disease Prevention and Health Promotion Plan* is developed. Discussions are already underway to expand the steering committee to include participants from outside of what has been the core (chronic disease, tobacco control, healthy communities) to include HIV/AIDs, Office of Health Equity, Violence and Injury Prevention.

As previously mentioned, the Division is undergoing a planning process to reorganize staff based on functional activities instead of categorical disease entities. Preliminary plans have the Division being divided into two units:

- **Healthy Communities** – schools, worksites and communities – focusing on policy, systems and environmental change strategies to continue the work of transforming the traditional context in which we promote health to one that supports and achieves sustainable behavior change through evidence-based policy, systems and environmental change strategies, thereby supporting healthy lifestyle choices; and
- **Healthcare Systems**, focused on policy and systems to support the delivery and use of clinical preventive services and programs to support self management.

The implementation of this new organizational structure for the Division will support coordination and collaboration across CDC-funded programs as we approach internal and external partners with unified chronic disease goals in mind. This coordinated approach will be a more efficient use of staff expertise and avoid duplication in our relationships with stakeholders.

7. Collaboration

MDPH has identified several key stakeholders who will make invaluable contributions to the development of the *Massachusetts Chronic Disease Prevention and Health Promotion Plan*. Each of the identified stakeholders will commit one representative to work with MDPH on modeling a framework for developing the statewide chronic disease plan. These core stakeholders will do the work of creating the framework of the state plan. We also expect that they will identify and implement a process to build and further develop linkages among partners and systems.

Under the current infrastructure, each external partner is approached categorically. For example, each time MDPH has sought partnership with MassHealth, it has likely been done in an isolated fashion. This can contribute to fatigue and disinterest on the part of potential external partners, being approached to participate in multiple collaborative projects from various programs within MDPH. Strengthening our internal collaboration through integration is a direct response to a frequent request from our stakeholders. It will allow us to approach them as well as new partners in a coordinated, comprehensive fashion, as one entity, rather than from a programmatic perspective. With one comprehensive agenda, we can strengthen relationships with external partners, as well as improve efficiency and efficacy.

The grid on external collaborations (see Appendix A) highlights key external stakeholders that are not working with all of the chronic disease programs. For example, only the Comprehensive Cancer and Healthy Aging programs have formed strong working relationships with the Area Health Education Centers (AHEC). Integration is an excellent way to build upon these existing relationships, adding the focus of other chronic disease programs to the already existing relationships that have been built through the Comprehensive Cancer and Healthy Aging Programs.

We intend to use the process of developing the plan as a method to integrate statewide partnerships, and facilitate relationship development between state agencies, partnerships, advisory groups, and other policy advocates. Working together on the common task of developing a strategic framework for the state plan will foster commitment to the plan, as well as provide stakeholders/partners with a better understanding of the scope and quality of complementary chronic disease prevention activities across the state.

Please refer to the **Background and Need** section for a description of other state and local partnerships and coalitions. We recognize there are many other partners who will offer valuable insight into our integration efforts, and we aim to create an infrastructure that will allow us to identify gaps. In convening designees from each of these key partnerships, we will be able to identify gaps in our representation so that we will better meet the needs of the Commonwealth. Further engagement of additional partners will enable us to expand the scope of our impact on

health at the community level. Please refer to Appendix L for a non-inclusive list of key stakeholders who will be invited to participate in implementing the *Massachusetts Chronic Disease Prevention and Health Promotion Plan*.

Each of the categorical programs at MDPH has formed strong linkages with external partners, including hospitals and physician groups, community health workers, MassHealth, the Massachusetts League of Community Health Centers, and the Departments of Housing and Community Development, Transportation, Early Education and Care, and Elementary and Secondary Education. Our internal realignment will enable us to integrate with our external partners more effectively. The framework developed through the ***Mass in Motion*** initiative has given us a new operating paradigm. The following are examples of the strong working relationships forged between MDPH and these external organizations and agencies.

- The Comprehensive Cancer program contracted with **Boston Medical Center** to conduct a quality improvement project targeting four of its urban **community health centers** to redesign systems to improve colorectal cancer screening. The project established the necessary infrastructure to monitor the use of screening colonoscopy and track patient outcomes from time of referral. Boston Medical Center developed an automated tracking system that generates monthly reports for each community health center. This system generates site-specific data for all patients referred including completed examinations – screenings and diagnostics, cancellations and "no-shows".
- The Women's Health Network, Men's Health Partnership, and the Comprehensive Cancer Program work with the Central Massachusetts **Area Health Education Center** (AHEC) to recruit and train community-based organizations to educate priority populations through trained **Community Health Workers** using the "Helping You Take Care of Yourself" curriculum. This is a "train the trainer" program that focuses on breast, cervical, prostate, cardiovascular, and colorectal health.
- MDPH and the **Executive Office of Elder Affairs** have a long-standing memorandum of understanding to collaborate on health promotion for older adults. In 2003, this partnership was expanded to collaborate on empowering older adults to better manage chronic conditions. With funding from the US Administration on Aging and the American Recovery and Reinvestment Act, there is now a statewide effort to build an infrastructure to implement the Stanford University Chronic Disease Self-Management Program, an evidence-based program effective at helping people manage their chronic conditions for reduced morbidity and mortality. This collaboration also engages over 200 community-based organizations to deliver Chronic Disease Self-Management training to adults 18 years and older with one or more chronic conditions. Over the past 12 months data have been collected representing 1,100 adults who have successfully completed the six-week workshop.
- As part of the Integration Demonstration Project, MDPH programs worked together to develop and implement a **Reducing Health Disparities among Men of Color** initiative. MDPH initially funded five community-based organizations to develop and implement an action plan with innovative and sustainable policy, systems and environmental changes that link community with healthcare to promote wellness and reduce chronic disease among men of color. The overall goal of the initiative is to improve health outcomes and reduce health disparities for men of color in Massachusetts. Budget cuts required the elimination of two

projects, but three active programs remain including the YMCA in Springfield, Henry Lee Willis Community Center/Mosaic Cultural Complex (Worcester), and the Refugee and Immigrant Assistance Center (located in Boston, but serving African born men in several communities). These projects have developed creative approaches to reach men including outreach within barbershops, athletic leagues, faith based organizations, and the development of men's groups.

- MDPH has extensive partnership with **municipalities, schools, childcare facilities, worksites and other state agencies** on wellness through its ***Mass in Motion*** initiative. ***Mass in Motion*** is our statewide obesity prevention initiative that has already had several positive outputs. We have published a document explaining the burden of obesity in Massachusetts. There are new regulatory changes in public schools promoting healthy eating and physical activity, and schools are now required to measure and report Body Mass Index (BMI) of students in grades 1, 4, 7, and 10. Governor Deval Patrick signed Executive Order 509, which requires state agencies to follow healthy nutrition guidelines in their food service practices. We have developed a Working on Wellness Program, which works with employers to create environments that encourage healthy behaviors while reducing absenteeism and health insurance costs. We have collaborated with private foundations to fund 14 community grants through a Municipal Wellness and Leadership initiative to provide guidance and training to institute sustainable, community-level policy and environmental changes that increase active living and healthy eating. MDPH maintains a website featuring simple, cost-effective ways to eat better and be more active. Additionally, two new initiatives supported by federal stimulus (ARRA) funding have begun:
  - The MA Children at Play Initiative helps early childhood centers establish policies and implement practices to meet the state's physical activity in child care centers requirement of 60 minutes a day.
  - The 2000-Calorie Campaign is designed to promote awareness of calorie intake and goals. This innovative program has laid the groundwork for us to implement the state plan at the community level with the assistance of these partners.
- **MassHealth** will be a key partner in these integration efforts, as they provide health care coverage to 16% of Massachusetts residents. MDPH has an established working relationship with MassHealth on initiatives to improve member outcomes related to cancer, heart disease, diabetes, and obesity as well as asthma. One such initiative included the creation and implementation of a tobacco cessation benefit for MassHealth members, which has reduced risk of hospitalization for heart attack by 46%. MassHealth also collaborates with MDPH to make chronic disease self-management programs readily available across the state. Another successful partnership between MDPH and MassHealth included development and implementation of a wellness program for MassHealth members, which provided an incentive for those who met wellness goals. The specific wellness targets included smoking cessation, diabetes screening for early detection, teen pregnancy prevention, cancer screening for early detection and stroke education. Lastly, MassHealth and MDPH partner on a bundled payment pilot for high-risk pediatric asthma. The Secretary of Health and Human Services envisions this pilot as one way to test new payment reform models. In this collaboration, MDPH provides the training and infrastructure to clinical sites to implement coordinated asthma care that includes home-visits by community health workers. MDPH will strengthen its partnership with MassHealth in new integration efforts through assuring access to

preventive health services, a provision of the federal Affordable Care Act. Health care reform is now on the national agenda, and Massachusetts continues to lead the way in improving health care access and quality in healthy communities.

- The **Massachusetts League of Community Health Centers** is a major partner for MDPH, serving the Commonwealth's most disparate populations. As a trade association, Mass League opens the door for MDPH to work more closely with community health centers. MDPH and Mass League have cooperated on several endeavors, including as partners in leading the Massachusetts Health Disparities Collaborative, which seeks to achieve strategic system change in the delivery of primary health care.
- MDPH has been involved in several collaborative projects with the **Massachusetts Department of Transportation (MassDOT).** MDPH staff work with MassDOT to provide support and content expertise to the Healthy Transportation Compact. Established in the Massachusetts Transportation Reform Law passed by both houses of the legislature and signed by the Governor in June 2009, the Healthy Transportation Compact brings together the Secretaries of Transportation, Health and Human Services, Energy and Environmental Affairs, the Administrator of Transportation for Highways, the Administrator for Mass Transit, and the Commissioner of Public Health. The Healthy Transportation Compact formally recognizes the relationship between land-use, transportation and health outcomes. MDPH also works with MassDOT on Safe Routes to School. MDPH participated on the statewide Safe Routes to School Task Force as well as in linking the Safe Routes to School outreach coordinators to our healthy communities' initiatives, including ***Mass in Motion***. MDPH also supported a Community Safe Routes to School pilot initiative in four communities, beginning with the start of the school year in the fall of 2008 and ending in June 2010. The program was administered by WalkBoston, a pedestrian advocacy organization, and MDPH collaborated with MassDOT and the Harvard Pilgrim Healthcare Foundation to fund the initiative. The Community Safe Routes to School initiative developed a community-wide program to encourage children to walk and bike to school and to incorporate these activities into their daily lives with the goal of changing the culture around walking and biking to make it a sustainable, acceptable "everyday" behavior and not as a one-time event. This initiative was designed to extend partnerships beyond the school building and into the public health, transportation, recreation, public safety, planning and community organizations that form the leadership and organizational strengths of every Massachusetts city and town.
- MDPH also has a relationship with the **Massachusetts Association of Regional Planning Agencies (MARPA**), an association of the directors and staff of each of the Regional Planning Agencies. Massachusetts is divided into 13 Regional Planning Agencies. We approached the regional planning agencies as a means to reach those involved in land use and transportation planning. Realizing this was a new relationship for MDPH, it was important to begin by educating (and learning from) land use and transportation planners on the public health implications of the decisions they make in their work. At their July 28, 2006 meeting, the Division program and epidemiology staff made a presentation on the link between the built environment and public health as well as an overview on health-related data that could be considered in the planning process. We then worked with the MDPH Health Survey Program to obtain Behavioral Risk Factor Surveillance System (BRFSS) data by regional planning agency. We have both prevalence of disease and risk

factor data for each regional planning agency (or combined regional planning agencies if the region is too small). The data using this breakdown are now updated on a yearly basis.

8. Communication

A key component of the new infrastructure is our comprehensive communication plan that outlines the communication goals, objectives and strategies for all projects and initiatives. Under this new structure, our focus will be target messaging to specific geographies with high rates of chronic disease, transitioning to the use of new and more cost effective dissemination channels, and co-messaging across diseases or risk factors wherever possible. For example, as we plan communications activities around a particular intervention, we will analyze maps showing the distribution of chronic disease within neighborhoods, towns, and regions to determine the effective use of communication dollars. Our multifaceted dissemination strategy will include but not be limited to social marketing efforts, educational media campaigns, print and online materials, webinars and trainings, websites, social media campaigns, success stories, and media relations. To disseminate local information, we will use a cost effective strategy that employs a standard web-based template and standard database platform. This has been used already with great effectiveness by the MDPH Tobacco Cessation and Prevention Program. The result of this standardized approach is single, clean look to display local information across the chronic diseases as opposed to one that deals with separate design issues for each disease. We will also analyze maps and population distributions of co-morbidities to determine whether co-messaging is possible. Communications for the *Massachusetts Chronic Disease Prevention and Health Promotion Plan* will take a "whole person" view. Since co-morbidities are often the rule with chronic disease as are co-existing risk factors, communications will be approached with these interrelationships in mind.

Our communication plan will effectively communicate the burden of chronic disease in Massachusetts, highlight the Division's interventions, and educate audiences on the impact and success of these efforts. The plan will facilitate ongoing communication processes among internal and external partners to ensure clear understanding of the communication goals, the sharing of approved materials and messages, and a coordinated approach to educating target audiences. The communication plan will target several audiences, including decision makers, media, consumers and internal partners.

Within four months of being awarded the grant, existing communication staff will work with the strategic planning consultant, the Integration Manager, other internal DPH staff and external stakeholders to form an internal communications team and develop a draft of the communication plan. MDPH anticipates hiring the Director of Communications no later than November 30, 2011, who will then finalize the communication plan.

Within the first month, communication staff will hold a series of meetings with internal DPH staff and external stakeholders to learn about communication needs and review communication efforts from previous projects, including the Integration Demonstration Project.

Beginning in November 2011, the communication staff will hold informal focus groups with program staff and key members of existing partnerships on the best ways to communicate. These focus groups will help inform the communication staff on which channels, messages, and tools

are most effective for communicating with internal staff and external stakeholders. For example, focus groups will help determine whether conference calls, webinars, or in-person meetings are best for communicating between meetings.
Between November and January communication staff will hold regular meetings with key members of internal and external partnerships to determine the Division's priorities and overall communication goals. At these meetings, the team will develop realistic, measureable and time-specific objectives to help achieve the communication goals. In coordination with internal staff, external stakeholders and the evaluation team, the communication staff will develop strategies for achieving the set objectives. Strategies will be evidence-based, or based on best-practices used in previous public health communication efforts.

At all steps along the way, core values will be incorporated into the communication efforts led by the Division. The Director of Communications will oversee the development and implementation of all content, materials and campaigns to ensure:

- Consistent messaging across the Division and individual programs
- Appropriate literacy level and language
- Cultural competency
- Accuracy of content and timeliness of message delivery
- Use of evidence-based practices
- Inclusion of disparate populations
- Inclusion of an evaluation component

Throughout the planning and implementation stages, communication and evaluation staff will monitor the effectiveness of the communication plan. Changes will be made to the plan as needed. Any plan that calls for the development of reports, journal articles and other publications will be developed in conjunction with other program and evaluation staff.

9. Policy

MDPH's IDP workplan, developed for the CDC IDP pilot, laid the groundwork for a coordinated, cross-cutting approach to developing and implementing effective health promotion and disease prevention policies and strategies and engaging partners. A common theme throughout the workplan was to increase efficiency in our programmatic efforts through the identification of common goals, objectives, and activities. In this effort, programs identified opportunities to align activities and resources with categorical diseases and risk factors, and identified a key capacity building gap: staff training. As a result, we initiated the *Shaping Policy for Health* training, a competency-based curriculum.

The *Shaping Policy for Health* training includes an introductory course and five sequential workshops built around the five domains of policy development and implementation. To date, the introductory training course and a 2-day workshop in Domain 1: Defining the Problem, have been held. Funds from this grant will provide for an opportunity to continue the workshops in the next four domains and to increase the number of staff who can attend. These trainings will provide staff with a common knowledge base and set of competencies to support evidence-based, cross-cutting policy, environmental and systems change strategies. The internal policy work group that will be convened as part of this grant will draw upon the concepts presented in these trainings to develop MDPH policy priorities for both the Division and the *Massachusetts*

Chronic Disease Prevention and Health Promotion Plan.

If fully funded, this grant will enable the Bureau to fund Daniel Delaney, the Director of Public Health Policy, to provide guidance and technical assistance on developing statewide and venue-specific policies that have impact at the local and organizational level. Mr. Delaney's responsibilities will include convening the internal policy workgroup and identifying and leading collaborations with other governmental and non-governmental agencies to implement chronic disease prevention and health promotion policies and strategies. Mr. Delaney will also be responsible for ensuring a policy agenda for chronic disease prevention and health promotion is developed by March 2012 that reflects the Division's current work as well as the *Massachusetts Chronic Disease Prevention and Health Promotion Plan*.

MDPH currently plays a lead role in developing and implementing a range of state and local policies aimed at reducing chronic disease and promoting health. Policy efforts have been focused primarily on major chronic disease risk factors including obesity, physical activity, nutrition and tobacco use. These efforts have been supported and facilitated by collaborations and partnerships with other state agencies, local health departments and boards of health, schools, workplaces, health care providers and community organizations.

Mass in Motion, launched in 2009, exemplifies MDPH's collaborative approach to promoting wellness and preventing overweight and obesity through policy, systems and environment change. ***Mass in Motion*** also provides a framework to better coordinate and support many of the Commonwealth's existing initiatives to increase levels of healthy eating and physical activity, as well as a platform from which to learn and share best practices that are being developed across the state and nationally. Please refer to the Categorical Program Activities for further description of ***Mass in Motion***.

Creating smoke-free environments, including increasing the supply of smoke-free housing, and expanding access to comprehensive insurance coverage for tobacco cessation are important strategies for reducing chronic disease death and disability and associated health care costs. MDPH, through its Tobacco Cessation and Prevention Program (MTCP), has worked collaboratively to advance state and local smoke-free workplace laws and has partnered with the Massachusetts Asthma Action Partnership, health departments and local housing authorities to promote smoke-free policies in multi-unit housing. MDPH collaborated with MassHealth (Medicaid) to implement and promote use of the MassHealth Smoking Cessation Benefit and seeks to engage partners to increase the number of Massachusetts residents with access to comprehensive cessation benefits through their health insurer.

MDPH will build on its policy achievements to date to strengthen and expand its collaborations and partnerships in order to increase the number, reach, quality and impact of current and future policy initiatives to support health and healthful behaviors. MDPH will draw upon its extensive network of governmental and non-governmental collaborations and partnerships to develop and implement the state's Chronic Disease Prevention and Health Promotion Plan. Particular emphasis will be placed on engaging organizations and groups whose work focuses on eliminating health disparities and achieving health equity.

10. Categorical Program Activities

The Division has been working toward integration of its categorical programs for several years even prior to being chosen as one of four states to participate in the CDC IDP. A variety of successful collaborations among the Division and chronic disease-specific programs are resulting in the expansion of evidence-based policy, system and environmental change strategies. Each chronic disease program provides the leadership for accomplishing many of its own disease-specific outcome objectives. For the collaborative interventions several of the disease-specific objectives are accomplished together without individual programs having to always assume the lead role. Thus limited resources are maximized.

As part of the Integration Demonstration Project, chronic disease program directors have been involved in intensive **strategic planning sessions** with BCHAP leadership. Multiple full- and half-day sessions have been held over the last year. Cheryl Bartlett and Lea Susan Ojamaa facilitated these sessions. Chronic disease program directors identified common goals and guiding principles to facilitate efforts toward an integrated infrastructure. Each program shared categorical-specific objectives, identified opportunities to align activities that are cross-cutting, and shared resources when applicable. These meetings engaged the program directors and began the process of prioritizing integration activities for the Division.

The planning process has enabled us to develop a strategy to reorganize the Division and align it on functional activities instead of categorical disease entities. The Division will be divided into two units: **Healthy Communities**, focusing on policy, systems and environmental strategies to change the context in schools, worksites and communities to support health; and **Healthcare Systems**, focusing on policy and systems to support the delivery and use of clinical preventive services and programs to support self management activities. Existing staff and programs will be realigned to comprise these new units. The extensive process undertaken thus far has helped staff within the Division identify the need for realignment, but this will still be a considerable change for the current staff. Ms. Bartlett and Ms. Ojamaa plan to engage an outside facilitator to finalize the reorganization plan. MDPH has done much of the work ourselves, but we would benefit from an external facilitator work with leadership and program staff to develop the final plan to present to the Commissioner by December 2011.

Current Collaborative Interventions

The ***Mass in Motion*** (at both the state and local levels) and **Population Health Management** interventions are examples of existing, successful collaborations among chronic disease programs. In the case of local, venue-specific (cities and towns, worksites and healthcare sites) interventions, agencies are funded through a single contract for several chronic disease interventions. Learning sessions, coaching, technical assistance and other needed support is funneled through one or two liaisons or point persons who maintain an on-going relationship with the agency. Please refer to Appendix M for a summary of collaborative interventions and chronic disease programs impacted.

Currently, individuals from categorical programs take the lead on implementing interventions specific to those programs. For example, the Asthma program has the staff with technical expertise to develop and support policy interventions surrounding asthma prevention and control. Staff from lead programs are dedicated to implementing interventions and providing overall

initial guidance and direction. The other disease-specific programs participating in the implementation of these interventions do not direct the initiative, but provide resources in a variety of ways: share in the funding of staff such as the community liaisons; fund expert advisors such as policy experts from the Massachusetts Municipal Association and Massachusetts Association of Health Boards; provide content expertise and provide funds for educational modules, media campaigns and materials development and distribution.

In the initial period after realignment, staff from the previous categorical programs will continue serve as technical and content experts, while the vision for the future is that all staff will have the necessary resources to address comprehensive chronic disease prevention and management.

Mass in Motion*:** As described in the **Policy** section of this application, ***Mass in Motion is a major, multi-faceted initiative of Governor Patrick's administration that focuses on wellness, with a particular focus on promoting healthy eating and increased physical activity through policy, system and environmental changes at both the state and local levels.

Both the state level and local level ***Mass in Motion*** policy changes lead to improvements in chronic disease (heart disease, stroke, diabetes, cancer, and arthritis). The ***Mass in Motion*** state level policy interventions are led by the **Wellness Unit** (Nutrition, Physical Activity and Obesity). The **Municipal Wellness and Leadership** grant program currently in 14 cities and towns is led by both the **Wellness Unit** and the **Community Liaisons.** The **Working on Wellness** worksite wellness initiative in 35 worksites is jointly implemented by the **Wellness Unit** and the **Heart Disease and Stroke Program.** The Working on Wellness intervention affects chronic disease-specific outcome objectives in the Wellness Unit (Nutrition, Physical Activity and Obesity), Heart Disease and Stroke, Diabetes and Comprehensive Cancer Control programs.

Population Health Management in Primary Care sites: Our Population Health Management project makes "maximizing health" for all patients the organizing principle. During 2010 staff from the Diabetes and Heart Disease and Stroke programs met with Massachusetts physician leaders and leaders involved in implementing electronic health records that meet HHS Meaningful Use criteria. A number of experts have suggested that primary care sites want and need assistance to take their practices to the "next level," and to begin using the information and reports provided by the electronic health record to improve the patient care.
The project enhances the effectiveness of the Electronic Health Record and includes practice systems and policies redesign to ensure that all patients at-risk for or with chronic diseases are receiving regular care as dictated by national protocols and guidelines. Population Health Management includes improvements in systems and policies that affect healthcare quality, access, and outcomes, thereby improving the health of defined population. This approach will assist Primary Care Practices to reach benchmarks and milestones set forth by Meaningful Use, Patient Centered Medical Home (PCMH) and Accountable Care Organizations (ACOs).

The initial site for implementing this collaborative intervention is the Southcoast Physicians Network in the Fall River and New Bedford area of Massachusetts. This is an area that is both economically and racially diverse allowing for the potential reduction in health disparities by implementing system-wide change. Twenty-three percent of Southcoast Physicians Network

patients are covered by MassHealth (Medicaid). The Southcoast Physicians Network has 31 primary care sites with 180 physicians.

Goals for Population Health Management include:

- Lower blood pressure and improve cholesterol levels in the general population and among people with diabetes
- Increased proportion of patients who have controlled blood pressure, cholesterol, and/or diabetes
- Increased population of patients receiving comprehensive diabetes care
- Improved systems and policies for managing and controlling patients with diagnosed high blood pressure, high cholesterol, and diabetes in primary care settings

The Diabetes and Heart Disease and Stroke programs are providing the leadership for the initial pilot phase of this intervention. The next phase includes expanding the content to other chronic diseases and spreading to other large physician networks and community health centers that using an electronic health record.

As a result of initial strategic planning sessions with chronic disease programs within the Division additional cross-program interventions have been identified. Most of the Division's chronic disease programs' outcome objectives will be impacted if these interventions are implemented. New collaborations that will be developed include:

- Expanding consistent use of Community Health Workers.
- Developing a bi-directional active linkage between primary care providers with community resources for patients either with or at-risk for chronic diseases.
- Increasing consumer/patient awareness regarding the importance of screening for chronic diseases.
- Ensuring that programs to support individuals with chronic diseases are widely available across the state for all population groups (linguistically and culturally appropriate). This includes Chronic Disease Self Management, Road to Health Toolkit, Lifestyle Balance Curriculum, decision support programs and others.
- Developing maps and charts that clearly display co-morbidities and common risk factors
- Sharing a common web-based template for the dissemination of local information about chronic disease and the associated risk factors

For more than three years, the Division has been working on collaboration. If fully funded the re-organization of the Division will enhance the expansion of the existing collaborative programs and aid in aligning additional program resources to efficiently implement new cross-program collaborations. To determine whether real progress has been made, we will use SMART objectives. One often unrealized aspect of collaboration is the fact that objectives set for one chronic disease or risk factor can impact several others. With that, the potential for cost savings and larger impacts on chronic disease is real and measureable

[1] Massachusetts BRFSS (2005, 2007, and 2009) analyzed by logistic regression controlling for age, gender, race, ethnicity, and self-reports of heart disease, stroke, cancer, diabetes, and activity limited by arthritis.

[2] Massachusetts BRFSS (2005, 2007, and 2009) analyzed by the same logistic regression model as above with controls for age, gender, race, ethnicity, and self-reports of heart disease, stroke, cancer, diabetes, activity limited by arthritis, and with the addition of variables for high cholesterol, current smoking, former smoking, hypertension, and obesity (BMI > 30).

[3] Centers for Disease Control and Prevention. Chronic Diseases and Health Promotion. Accessed July 11, 2011. Available at: http://www.cdc.gov/chronicdisease/overview/index.htm

[4] Massachusetts Deaths, 2008, Bureau of Health Information, Statistics, Research and Evaluation, Massachusetts Department of Public Health. April 2009

[5] Op.cit 3

[6] Op.cit. 3

[7] Op.cit. 4

[8] Op.cit. 3

[9] Op.cit. 4

[10] The World Health Organization. Preventing Chronic Diseases: A Vital Investment . 2005. Accessed July 11, 2011. Available at: http://www.who.int/chp/chronic_disease_report/contents/en/index.html

[11] Massachusetts Department of Public Health, Cancer Incidence and Mortality in Massachusetts 2003-2007: Statewide report. 2010. Massachusetts Cancer Registry.

[12] Op.cit. 4

[13] CDC: United States Cancer Statistics (USCS): Available at: http://www.cdc.gov/print.do?url=http%3A%2F%2Fwww.cdc.gov%2Fcancer%2Fnpcr%2Fuscs%2F2005%2Ftechnical_notes%2F Accessed July 11, 2011

[14] Op.cit. 4

[15] Op.cit. 4

[16] Op.cit. 4

[17] Centers for Disease Control and Prevention. Heart Disease Facts. America's Heart Disease Burden. Accessed July 12, 2011. Available at: http://www.cdc.gov/heartdisease/facts.htm

[18] Massachusetts Department of Public Health. A Profile of Health Among Massachusetts Adults, 2010: Results from the Behavioral Risk Factor Surveillance System. (MBRFSS 2011).

[19] Ibid

[20] Ibid

[21] Ibid

[22] Ibid

[23] Op.cit. 3

[24] Op.cit. 18

[25] Health and Risk Behaviors of Massachusetts Youth, 2009. Accessed July 12, 2011. Available at: http://www.doe.mass.edu/cnp/hprograms/yrbs/2009YRBS.pdf

[26] Tanja Srebotnjak, Ali Mokdad, et. al. A novel framework for validating and applying standardized small area measurement strategies. Population Health Metrics. 2010 8:26.

[27] Wenjun Li, Thomas Land**,** Zi Zhang et. al. Small-Area Estimation and Prioritizing Communities for Tobacco Control Efforts in Massachusetts. American Journal of Public Health, March 2009, Vol 99, No. 3, 470-479.