

Section 3.1

THE DATABOOK

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A Research Report
Prepared for the
St. Louis Regional
Health Commission
by Inneval LLC

Community Health Infrastructure Assessment for St. Louis City and County

Focusing on Type 2 Diabetes,
Cardiovascular Disease & Obesity

This section has been extracted from a larger report called the Community Health Infrastructure Assessment for St. Louis City and County. For information about the context of the findings, research methods, focus areas and overall conclusions, please refer to the larger report or contact the authors.



ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

INTRODUCTION

Background and Context

Type 2 diabetes, cardiovascular disease and obesity were joined together in the assessment because of their common link to dietary and physical activity behavior. While heredity is associated with each, lifestyle-related risk factors are modifiable and the target of most prevention strategies.

Type 2 Diabetes

Diabetes¹ is a common and costly health condition which disproportionately affects minority and low-income groups. Diabetes-related mortality is higher in high-need zip codes, as shown in Map 1 on page 12. Approximately \$1.4 billion is spent on medical care of people with diabetes in the St. Louis region. Many community-based and medical care services focus on the needs of persons with diabetes with a goal to prevent the complications of diabetes, such as cardiovascular disease, kidney failure, and blindness. There are only a few programs in the region that are fully dedicated to the prevention of type 2 diabetes itself. Of those, most promote awareness and self-identification of risk-factors. While new research from the Diabetes Prevention Program has documented how type 2 diabetes can be prevented or delayed, there is no coordinated effort within the region to translate these findings into practice.

Epidemiology and economics

Diabetes afflicts more than 16 million people in the United States. It is the main cause of kidney failure, limb amputations, and new onset blindness in adults and a major cause of heart disease and stroke. Type 2 diabetes accounts for up to 95 percent of all diabetes cases. Most common in adults over age 40, type 2 diabetes affects 8 percent of the U.S. population age 20 and older. It is strongly associated with obesity (more than 80 percent of people with type 2 diabetes are overweight), inactivity, family history of diabetes, and racial or ethnic background. The prevalence of type 2 diabetes has tripled in the last 30 years, and much of the increase is due to the dramatic upsurge in obesity. People with a BMI of 30 or greater have a five-fold greater risk of diabetes than people with a normal BMI of 25 or less.

¹Diabetes mellitus is a disease in which the body does not produce or properly use insulin, a hormone that is needed to convert food into energy needed for daily life. More specifically, the American Diabetes Association defines diabetes mellitus “a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both.” Hyperglycemia occurs when blood glucose (a.k.a., blood sugar) levels exceed the normal range.

Diabetes is a common and costly condition in the St. Louis region. More than 100,000 in St. Louis City and Saint Louis County have type 2 diabetes. Refer to Table 1. It is estimated that an additional 50,000 people have it, but are unaware due to the way it slowly presents itself via complications such as heart disease, retinopathy, and kidney disease. Based on national cost estimates from 2002, medical care for cases of diagnosed diabetes (both type 1 and type 2) costs the St. Louis region approximately \$1.4 billion annually (\$13,243 per case per year x 105,349 cases). Most of this cost is for complications attributable to sub-optimal diabetes management. Approximately 44 percent is for inpatient care, an indicator of the severity of disease complications. According to the most recent national cost study, almost \$1 of every \$5 that is spent on health care in the United States is for a person with diabetes.

3.1 Table 1. Cases of Type 2 Diabetes in St. Louis City and Saint Louis

	St. Louis City	Saint Louis County	Total
Prevalence of Diagnosed Diabetes	10.7%	6.7%	
Population	348,189	1,016,315	1,364,504
Diagnosed Diabetes Cases	37,256	68,093	105,349
Diagnosed Type 2 Diabetes Cases	35,393	64,688	100,082
Undiagnosed Cases of Type 2 Diabetes	17,697	32,344	50,041
Diagnosed and Undiagnosed Cases of Type 2 Diabetes	53,090	97,033	150,123

Health Disparity

Compared to whites, African American adults have a 60 percent higher rate of type 2 diabetes and Hispanic adults have a 90 percent higher rate. According to national studies, African Americans are 1.6 times more likely to have diabetes than non-Hispanic whites. Twenty-five percent of African Americans between the ages of 65 and 74 have diabetes and one in four African American women over 55 years of age has diabetes.² Health disparities attributable to diabetes also exist in St. Louis. In comparison to Whites, the mortality rate of African Americans is 1.6 times higher in St. Louis City and 2.1

²American Diabetes Association. <http://www.diabetes.org/diabetes-statistics/african-americans.jsp>

times higher in St. Louis County.

Obesity: Correlated with Type 2 Diabetes

Although obesity is not the only risk factor for the development of type 2 diabetes, it serves as a proxy measure for the purposes of planning diabetes prevention. With more than 280,000 cases of obesity (BMI \geq 30) in the region and a high correlation between obesity and diabetes, diabetes is expected to rise significantly over the next few years. The obesity epidemic is concentrated in St. Louis City where 31.4 % of the population is obese. More than 425,000 people in the region are overweight and are at-risk for progression to obese status. Refer to Table 2.

3.1 Table 2. Prevalence of Obesity and Overweight in St. Louis City and Saint Louis

	St. Louis City	Saint Louis County	Total
Population	348,189	1,016,315	1,364,504
Obesity (BMI >30) Prevalence	31.40%	17.50%	
Obese Persons	109,331	177,855	287,186
Overweight (BMI 25-29.9) Prevalence	30.6%	31.7%	
Overweight Persons	106,546	322,172	428,718

Health Disparity

“Major disparities exist among population groups, with a disproportionate burden of death and disability from cardiovascular disease in minority and low-income populations. The age-adjusted death rate for coronary heart disease for the total population declined by 20 percent from 1987 to 1995; for African Americans, the overall decrease was only 13 percent. Compared with rates for whites, coronary heart disease mortality was 40 percent lower for Asian Americans but 40 percent higher for African Americans in 1995. Disparities also exist in the prevalence of risk factors for cardiovascular disease. Racial and ethnic minorities have higher rates of hypertension, tend to develop hypertension at an earlier age, and are less likely to undergo treatment to control their high blood pressure. For example, from 1988 to 1994, 35 percent of African American males ages 20 to 74 had hypertension compared with 25 percent of all men.”³

In many cases, metabolic control of obese persons is compromised into a state known as *pre-diabetes*, a condition in which blood glucose levels are higher than normal but are not high enough for a diagnosis of diabetes. People with pre-diabetes are at increased risk for developing type 2 diabetes and for heart disease and stroke. There are 41 million people in the United States, ages 40 to 74, who have pre-diabetes and in St. Louis region the estimate is more than 200,000. Other names for pre-diabetes are impaired glucose tolerance and impaired fasting glucose

Cardiovascular Disease

Cardiovascular disease (CVD), principally heart disease and stroke, is America's leading killer for both men and women among all racial and ethnic groups. Almost 1 million Americans die of CVD each year, which adds up to 42% of all deaths. Heart disease does not just kill the elderly -- it is the leading cause of death for *all* Americans age 35 and older. Heart disease accounts for over one million deaths each year; in 160,000 of those deaths the individuals were 35 to 64 years old. Heart disease-related mortality is higher in high-need zip codes, as shown in Map 2 on page 13. A number of health-related behaviors practiced by people every day contribute markedly to cardiovascular disease.

Tobacco Use: Smokers have twice the risk of heart attack as nonsmokers. One-fifth of the annual 1,000,000 deaths from CVD are attributable to smoking. Surveillance data indicate that an estimated 1,000,000 young people become "regular" smokers each year.

Lack of Physical Activity: People who are sedentary have twice the risk of heart disease as those who are physically active. Surveys show that more than half of American adults do not practice the recommended level of physical activity, and more than one-fourth are completely sedentary.

Poor Nutrition: Between 20% and 30% of the nation's adults (some 58 million people) are obese and thus have a higher risk for heart disease, high blood pressure, high cholesterol, and other chronic diseases and conditions such as diabetes. Only 27% of women and 19% of men report eating the recommended five servings of fruits and vegetables each day.

³ National Institutes for Health, Address Health Disparities, <http://healthdisparities.nih.gov/welcome.html>

SURVEY RESULTS

As part of a comprehensive examination of primary and secondary prevention services for ten focus areas in St. Louis City and County, the RHC identified type 2 diabetes, cardiovascular disease and obesity prevention activities by surveying schools, places of worship, hospitals, health centers, funders and community health organizations. Two community forums were organized to collect qualitative data and receive feedback on survey results. Results of this research process are summarized herein.

Community health organizations

- Of the 12 organizations that completed a *Focus Area Survey for Type-2 Diabetes, Cardiovascular Disease/Hypertension, and Obesity*, 33 distinct programs were reported. Only one-third of the programs cited a specific program model and less than one-quarter cited any theoretical or evidence basis for their program activities.
- The activities across the 33 programs varied greatly, but the majority of programs did incorporate some type of primary prevention for at least one of the specific diseases—diabetes, cardiovascular disease or obesity. Primary prevention activities included both a general emphasis on such things as “education and training to prevent disease and promote health” and more specific activities such as “nutrition counseling and meal planning”; secondary prevention included blood pressure and cholesterol screening. Additionally, several of the programs were clearly focused more on tertiary prevention and treatment and should not be considered prevention activities at all. The great majority of programs did report targeting their services to particular populations or clients, most often by location (high risk zip codes), age, income level, race/ethnicity, and/or specific disease risk factors.
- A specialization in diabetes issues is rare. Of all the organizations surveyed, only two respondents were exclusively focused on issues related to diabetes prevention – the American Diabetes Association Gateway Chapter (ADA) and the St. Louis Diabetes Coalition (SLDC). While both are involved with primary prevention, with ADA to a greater degree, neither of these organizations reported involvement with direct secondary prevention services (a.k.a., screening and early detection).

Places of worship

- Type 2 diabetes and heart disease were the leading focus areas reported by places of worship. The frequency of prevention activities for obesity was one-half of type 2 diabetes.

Schools

- Schools are involved with primary prevention through promotion of nutrition and physical activity to students.
- In some cases, schools provide primary and secondary prevention services for type 2 diabetes and cardiovascular disease to staff and community at-large.
- Approximately 40% (or 27 of the 65 responding schools) reported educational efforts that target the obesity problem.

Funders

- One funder reported providing \$10,000 for diabetes prevention activities.
- One funder reported providing \$4.4 million for prevention activities related to cardiovascular disease. Given this high level of funding, cardiovascular disease was second only to maternal and child health as the focus area receiving the most funds.
- Cardiovascular disease was a special initiative of the Missouri Foundation for Health in 2003.

Health centers

- All responding health centers provide screening for type 2 diabetes, obesity and cardiovascular disease and distribute written materials.

Hospitals

- All hospitals reported involvement in the prevention of type 2 diabetes, obesity and cardiovascular disease. Classes, media campaigns and distribution of written materials led the list of primary prevention strategies.
- It appears that in many cases, prevention services are targeted at potential consumers of acute care services.

COMMUNITY RESPONSE

At a forum organized by the RHC, community members provided responses to the survey data and commented on the status of primary and secondary prevention services for type 2 diabetes, cardiovascular disease, and obesity.

General comments and observations

- There is fragmentation of services among organizations.
- There is a lack of funding for prevention services
- Many cases of diabetes are going undetected due to the fact that current prevention messages are not effective in specific at risk populations. For example, there is a lack of culturally tailored messages to reach these specific populations.
- There is a lack of expertise and interest about diabetes prevention among people able to influence health behaviors, such as physicians.
- Many individuals are unable to afford prevention services.
- There is a lack of coordination with schools in regards to prevention activities such as diet and exercise.
- There is an emphasis on *treatment* for diabetes and heart disease rather than prevention.

Recommendations and opportunities

- Increase collaboration with schools with regard to identifying potential cases and increasing physical activity.
- Target messages for specific populations at risk as general messages do not make sense for most people due to cultural and other differences.
- Increase awareness of risk and highlight the connection between these diseases.
- Increase availability of prevention services.
- Increase the availability of resources needed to implement behavior change (e.g., nutritious food choices).

OTHER CONSIDERATIONS

Diabetes

Primary prevention

Although people with diabetes can prevent or delay complications by keeping blood glucose levels close to normal, preventing or delaying the development of type 2 diabetes in the first place is even better. The results of a major federally funded study, the Diabetes Prevention Program (DPP), show how to do so. This study of 3,234 people at high risk for diabetes showed that moderate diet and exercise resulting in a 5- to 7-percent weight loss can delay and possibly prevent type 2 diabetes.

Study participants were overweight and had pre-diabetes, two strong risk factors for type 2 diabetes. Because of the high risk among some minority groups, about half of the DPP participants were African American, American Indian, Asian American, Pacific Islander, or Hispanic American/Latino. The DPP tested two approaches to preventing diabetes: a healthy eating and exercise program (lifestyle changes) and the diabetes drug metformin. People in the lifestyle modification group exercised about 30 minutes a day five days a week (usually by walking) and lowered their intake of fat and calories. Those who took the diabetes drug metformin received standard information on exercise and diet. A control group received only standard information on exercise and diet. The results showed that people in the lifestyle modification group reduced their risk of getting type 2 diabetes by 58%. Lifestyle modification was even more effective in those 60 and older. They reduced their risk by 71%. People receiving metformin reduced their risk by 31%. In essence, the DPP worked. Diabetes prevention was proven possible. If the DPP results could be translated into the pre-diabetes population of the St. Louis region, approximately 25,000 new cases of diabetes could be prevented or delayed over a three year period. Likewise, the associated expenses of diabetes care would be avoided.

Secondary prevention

Type 2 diabetes is frequently diagnosed upon admission to the hospital for associated complications, such as heart disease or at a physician office for treatment of vision problems, erectile dysfunction, frequent urination, etc. Many people with diabetes do not realize they have the condition because its early symptoms are silent. As stated above, 50,000 people in the region are estimated to have diabetes but not know it. According to one research study, onset of type 2 diabetes is estimated begin ten years before it is clinically diagnosed. During the period of non-diagnosis, type 2 diabetes can cause significant irreversible damage to many body systems. For example, retinopathy, the predecessor to

blindness, begins developing at least seven years before a diagnosis of type 2 diabetes is made. Therefore, it is imperative that a diagnosis of diabetes is made as early as possible so appropriate treatment can be initiated. Screening guidelines have been established by the American Diabetes Association and adapted for local implementation by St. Louis Diabetes Coalition.

SUPPLY and DEMAND: IDENTIFIED GAPS

in the COMMUNITY HEALTH INFRASTRUCTURE

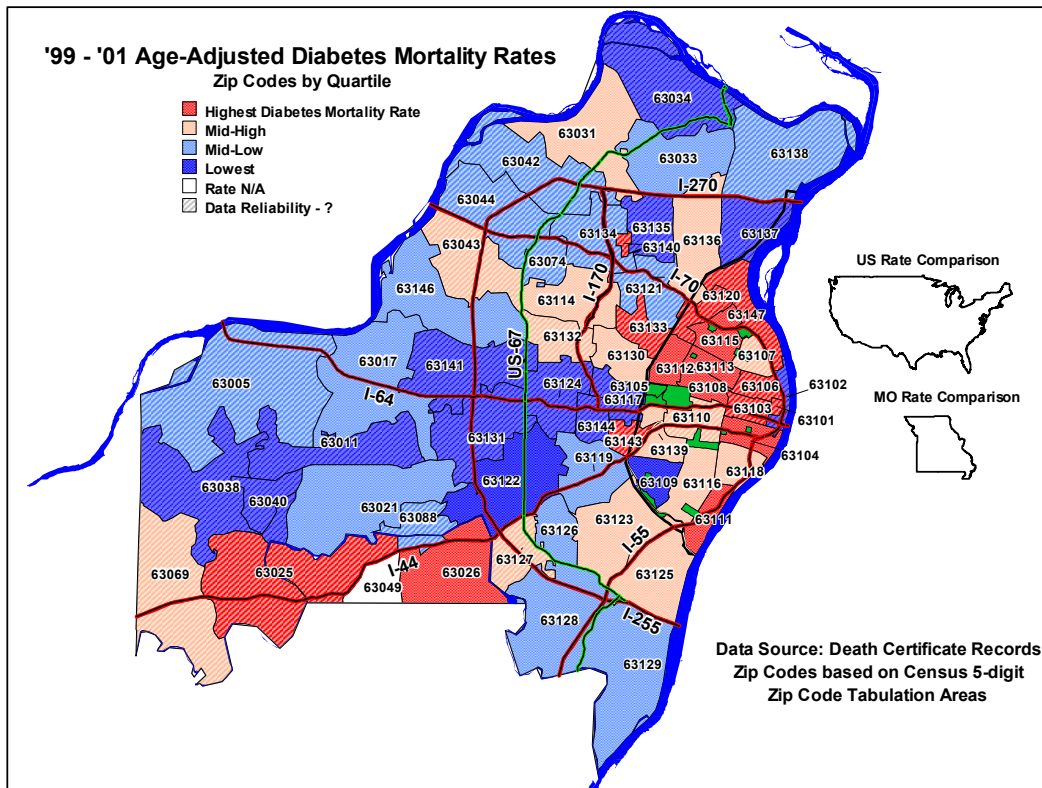
One task of the assessment project was to identify gross differences between supply and demand of prevention services. The way this difference was calculated varied by focus area, but in most cases the demand for primary prevention was estimated. To demonstrate the demand for prevention services associated with diabetes and cardiovascular disease, obesity prevalence is cited. In the St. Louis City, 109,331 people are obese (BMI >30). In the St. Louis County, 177,855 people are obese (BMI >30). Based on survey results, there are no wide-scale programs available to address the diabetes and cardiovascular prevention needs of this many people.

OBSERVATIONS and CONCLUSIONS

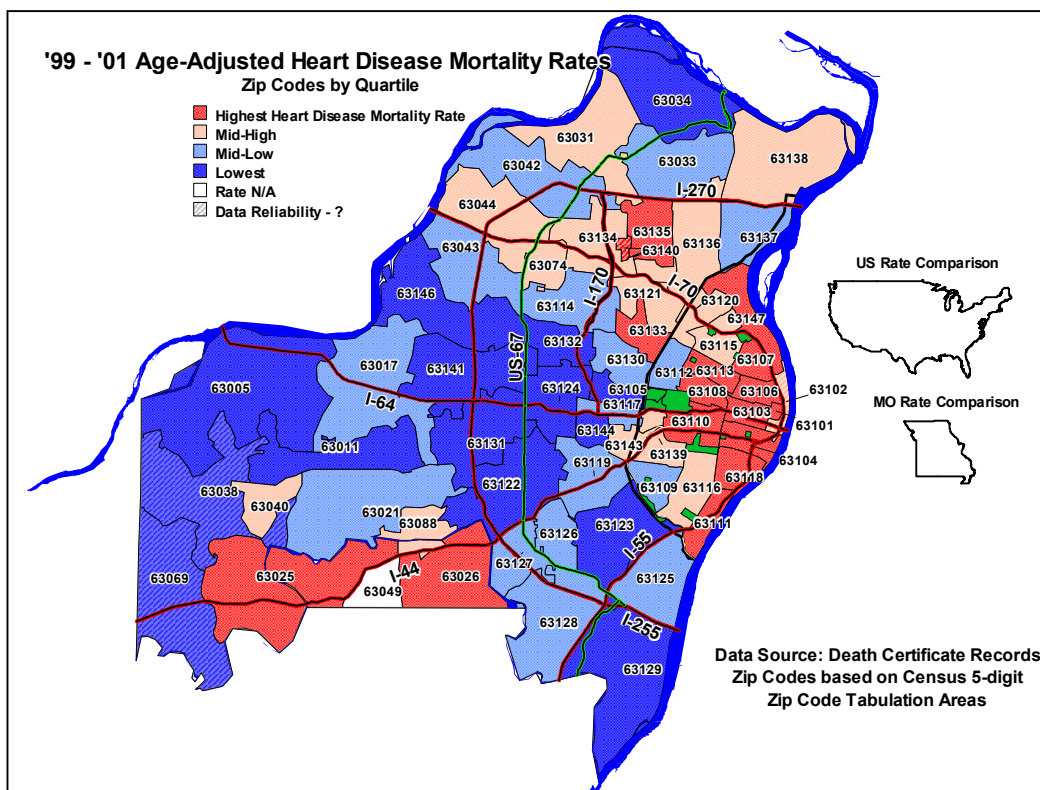
- There are only a handful of diabetes prevention programs, and most are provided through an affiliation with the American Diabetes Association or the American Heart Association.
- Many programs are truly disease management. Many reported programs and activities addressed the needs of people with diabetes or heart disease versus those at risk.
- Of the thirty-three programs identified, only 6 were directly related to diabetes prevention. More than half of these programs were provided by the ADA and used a combination of prevention and disease management messages.
- Diabetes prevention activities are rudimentary. In general, diabetes prevention activities involve awareness promotion by means of written material distribution and advertisements. The survey results included no evidence of an attempt to translate findings of the Diabetes Prevention Program into practice.
- Activities are uncoordinated. Community forum participants called diabetes and cardiovascular disease prevention activities in the region “disjointed” and “separated.” One participant said they are like “polka dots, many little projects, but not connected in any way.”
- Obesity, a major public health problem in the St. Louis region, is a leading risk factor for cardiovascular disease and type 2 diabetes.
- Despite a link between cardiovascular disease and type 2 diabetes, prevention programs are usually focused on one or the other.
- Survey data suggests that prevention services are not directed to areas of highest need, specifically the high-need zip codes.

Maps

3.1 Map 1. '99 – '01 Age-Adjusted Diabetes Mortality Rates



3.1 Map 2. '99 - '01 Age-Adjusted Heart Disease Mortality Rates



3.1 Appendix 1.

The following table has been abstracted from another section of this report that discusses evidence-based strategies for each of the ten focus areas. Below are recommended evidence-based strategies and best practices for type 2 diabetes, obesity and cardiovascular disease.

Recommended Prevention Activities for Diabetes Mellitus

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
Clinical Preventive Services	<ul style="list-style-type: none"> See nutrition below in recommended prevention activities for cardiovascular disease 	<ul style="list-style-type: none"> Screening (not specified) for Type 2 diabetes in adults with hypertension or hyperlipidemia
Community Preventive Services	<ul style="list-style-type: none"> See physical activity in recommended prevention activities for obesity 	<p>[The following strategies were recommended by the Community Guide, however note they are at the tertiary level of prevention.]</p> <ul style="list-style-type: none"> Diabetes self-management education in community gathering places for adults with Type 2 diabetes Diabetes self-management education in the home for adolescents with Type 1 diabetes Case management of patients which involves: 1) patient identification; 2) assessment; 3) development of an individual care plan; 4) implementation of the care plan; 5) monitoring outcomes Disease management which involves: 1) identification of a population with diabetes; 2) care guidelines or performance standards; 3) management of effected individuals; 4) tracking and monitoring systems

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
<p>Clinical Preventive Services</p>	<p>Nutrition:</p> <ul style="list-style-type: none"> • Intensive behavioral dietary counseling for adult patients with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic disease • Counseling adults and children over age 2 to limit dietary intake of fat (especially saturated fat) and cholesterol, maintain caloric balance in their diet and emphasize foods containing fiber (i.e., fruits, vegetables, grain products) is recommended <p>Tobacco:</p> <ul style="list-style-type: none"> • See Section 1.3 in full report 	<p>Cholesterol screening:</p> <ul style="list-style-type: none"> • Routine cholesterol* (total and HDL-C) screening in men ages 35 and older and women 45 and older (2001) • Routine cholesterol* (total and HDL-C) screening of younger adults (men 20-35 and women 20-45) if they have other risk factors for CVD (2001) <p>Hypertension:</p> <ul style="list-style-type: none"> • Routine hypertension screening for all children and adults (1996) <p>Tobacco Cessation:</p> <ul style="list-style-type: none"> • Screen all adults for tobacco use (2003) • Screen all pregnant women for tobacco use (2003)

*Evidence is insufficient to recommend for or against triglyceride measurement.

Recommended Prevention Activities for Cardiovascular Disease (includes physical activity, nutrition and tobacco use) (cont.)

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
Community Preventive Services	<p>Physical Activity (2003):</p> <ul style="list-style-type: none"> • Highly visible community-wide campaigns that provide physical activity messages through a variety of media and included other strategies such as support, counseling and policy changes • Point of decision prompts (signs that encourage physical activity, e.g., use of stairs instead of elevators) • Increase the length of or intensity of physical education classes • Non-family social support (e.g., walking groups, workplace opportunities for physical activity) • Individualized physical activity programs that teach behavioral skills to incorporate physical activity in daily lives • Increased access to places for physical activity (e.g., walking trails, health centers) combined with informational outreach activities • Tobacco See Section 1.3 in full report 	<ul style="list-style-type: none"> • See Tobacco below

Recommended Prevention Activities for Obesity

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
Clinical Preventive Services	<ul style="list-style-type: none"> • See nutrition recommendations above in cardiovascular disease • High-intensity counseling and behavioral interventions aimed at skill development, motivation and support strategies to promote sustained weight loss in obese (2003) 	<ul style="list-style-type: none"> • Screen all adults for obesity (2003)
Community Preventive Services	<ul style="list-style-type: none"> • See physical activity recommendations above in cardiovascular disease 	<ul style="list-style-type: none"> • None specific to obesity

Section 3.2

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Focusing on
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ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

INTRODUCTION

Background and Context

It is estimated that there will be 215,990 new cases of female breast cancer and 230,110 new diagnoses of prostate cancer in the United States in 2004. The estimated number of deaths from these two cancers is 70,010 annually (refer to Map1 on page 8 and Map 2 on page 9 for local mortality rates for breast and prostate cancer). In the state of Missouri during 2004, there will be an estimated 4,680 new cases of female breast cancer and 3,460 new cases of prostate cancer. Although these are estimates, it is known that Missouri's incidence rates for breast and prostate cancer in 2003 were 127.6 per 100,000 and 139.2 per 100,000, respectively.¹

Based on incidence data from the St. Louis region, there are 1,181 new cases of female breast cancer and 1,172 new cases of prostate cancer annually.²

Breast cancer

Breast cancer is the non-skin cancer most frequently diagnosed in women as the incidence rate has continued to rise in invasive and in situ breast cancers. In situ breast cancer remains confined to ducts or lobules.

The increased use of mammography has been a key factor in the higher detection rate. Though early detection and treatment have resulted in a 2.3% reduction in the mortality rate over the past decade, breast cancer ranks second among cancer deaths in women.

The risk factors associated with breast cancer are increased age, family history, biopsy-confirmed atypical hyperplasia, a long menstrual history, obesity and recent use of oral contraceptives, postmenopausal hormone therapy, never or late childbearing as well as daily consumption of alcoholic beverages. Conversely, protective factors are breastfeeding, physical activity and maintaining an appropriate body weight

¹Cancer Facts and Figures 2004, American Cancer Society

²Missouri Department of Health, Missouri Information for Community Assessment (MICA)

Breast cancer can be detected through mammography prior to any development of physical symptoms. Clinical breast exams and breast self-exams are capable of detecting noticeable lumps, discharge or breast changes. Early detection is essential as the cancer is confined and there are more treatment options. The five-year survival rate for breast cancer that has not spread to the lymph nodes or outside the breast has increased from 72% to 97% over the past 60 years. If the cancer has been detected at a later stage and metastasized, the survival rate can range from 23% to 79%.

Prostate cancer

Prostate cancer has the second highest mortality rate among cancers in men. Between 1988 and 1992, with the use of prostate-specific antigen (PSA) blood tests, the incidence rate soared. In 1992, the incidence rate dropped, but it has increased steadily since 1995 in men under the age of 65 and remained constant in men over 65.

The risk factors for prostate cancer are age, ethnicity and family history. The majority of prostate cancers occur in men over the age of 65 years. African American and Jamaican men of African descent have the highest incidence rates worldwide. International studies indicate that dietary fat is a potential risk factor and that increased body weight is a risk factor for increased mortality. Prostate cancer is detected through the PSA blood test and digital rectal examinations. As with breast cancer, early detection through testing is critical as there are usually no symptoms. Symptoms that occur once the cancer has progressed include difficulty with urination, blood in the urine, pain while urinating and low back and pelvic pain. Almost 90% of all prostate cancers are detected while still in the local or regional stages; therefore, the five-year survival rate is often 100%. Over the past 20 years, the five-year survival rate increased from 67% to 98% for all stages combined.

Health disparity

African Americans are disproportionately affected by cancer. Adjusting for age, African Americans are almost 25% more likely to die from all types of cancer than Whites. African American males die twice as often from prostate cancer than Whites. African American females die more often from breast cancer than White females even though African American females are diagnosed less frequently. The disparities mentioned above are a combination of higher incidence, higher mortality and shorter survival rates. The National Cancer Institute cites that minorities:

- Are more likely not to have a regular doctor (32% of African Americans)
- Face greater difficulty communicating with their doctor (23% of African Americans)
- Often have transportation issues
- Often need an advocate to help find information
- Often are not diagnosed early
- Are not screened equally and are treated less aggressively medically

The President's Cancer Panel conducted town hall public meetings in 2000 and 2001. The general consensus of the patients, families, politicians and medical providers was that, "No person in America with cancer should go untreated, experience insurance-related diagnosis or treatment delays that jeopardize survival, or be bankrupted by a cancer diagnosis." Stated in such terms, many disparities could be eliminated with adequate access as a result of adequate insurance and financial coverage.

SURVEY RESULTS

As part of a comprehensive examination of primary and secondary prevention services for ten focus areas in St. Louis City and County, the RHC identified cancer prevention activities by surveying schools, places of worship, hospitals, clinics, funders and community health organizations. Two community forums were organized to collect qualitative data and receive feedback on survey results. Results of this research process are summarized herein.

Community health organizations

- Twenty-four organizations were identified and mailed a focus area survey for breast and prostate cancers. There were three respondents with three distinct programs. Three programs provide information, but only two educate to change behaviors designed to prevent cancer. Two of the programs target African American women while the third targets refugees. None of the programs are based on a model, a theory or evidence.

Places of worship

- One-third of places of worship reported involvement with any prevention activities in the focus areas.
- Of those, nine or 53% were involved with any type of prevention activity reported addressing breast cancer. Five or less than one-third addressed prostate cancer.

Schools

- Occasionally schools partnered with external organizations to increase awareness of breast and prostate cancers for staff and/or the community

Funders

- Two funders reported involvement in activities related to breast cancer, but the funds were not directed toward prevention activities.
- The Susan G. Koman Foundation granted approximately \$1 million for prevention-related services in 2003.

Health centers

- The emphasis of awareness and educational activities are generally directed toward existing patients.
- Most health centers offer secondary prevention services for breast and prostate cancers.

Hospitals

- All adult hospitals provide secondary screening services for breast and prostate cancers.
- Many hospitals have engaged in some primary prevention activity for increasing awareness of breast and prostate cancers.

COMMUNITY RESPONSE

At a forum organized by the RHC, community members provided responses to the survey data and commented on the status of primary and secondary prevention services for breast and prostate cancers.

General comments and observations

- Respondents supported survey data finding that prevention services are not directed to areas of highest need, specifically the high-need zip codes.
- While there are many support groups and services available for women with breast cancer, awareness of prostate cancer is very low.
- Most prevention activities are focused on early diagnosis.
- There is a lack of culturally competent prevention education and services.

Recommendations and opportunities

- Design programming and education to talk *with* people and not *at* people.
- Tailor messages to specific populations.
- Educate the public on what services are available in the community.
- Collaborate with all organizations within focus area regardless of organization type

SUPPLY and DEMAND: IDENTIFIED GAPS in the COMMUNITY HEALTH INFRASTRUCTURE

One task of the assessment project was to identify gross differences between supply and demand of prevention services. The way this difference was calculated varied by focus area, but in most cases the demand for primary prevention was estimated. To demonstrate the demand for prevention services, the number of people at-risk for breast and prostate cancer were estimated.

Breast cancer

There are approximately 60,000 women at-risk for breast cancer in St. Louis City³ and 210,000 at-risk in St. Louis County.⁴ Survey results clearly suggest the needs of these large populations are not being adequately addressed.

Prostate cancer

There are approximately 30,000 men at-risk for prostate cancer in St. Louis City⁵ and 108,000 at-risk in St. Louis County.⁶ Survey results clearly suggest the needs of these large populations are not being adequately addressed.

³The population total for women ages 40-79 in St. Louis City is 69,282 per the 2000 Census. Some of these women already have been diagnosed with breast cancer. Since some of these women have already have been diagnosed with breast cancer, an adjustment of 10% has been made to determine the number at-risk.

⁴The population total for women ages 40-79 in St. Louis County is 231,155 per the 2000 Census. Since some of these women have already have been diagnosed with breast cancer, an adjustment of 10% has been made to determine the number at-risk.

⁵The population total for women ages 50-79 in St. Louis City is 32,790 per the 2000 Census. Some of these women already have been diagnosed with breast cancer. Since some of these women have already have been diagnosed with breast cancer, an adjustment of 10% has been made to determine the number at-risk.

⁶The population total for women ages 50-79 in St. Louis County is 119,542 per the 2000 Census. Since some of these women have already have been diagnosed with breast cancer, an adjustment of 10% has been made to determine the number at-risk.

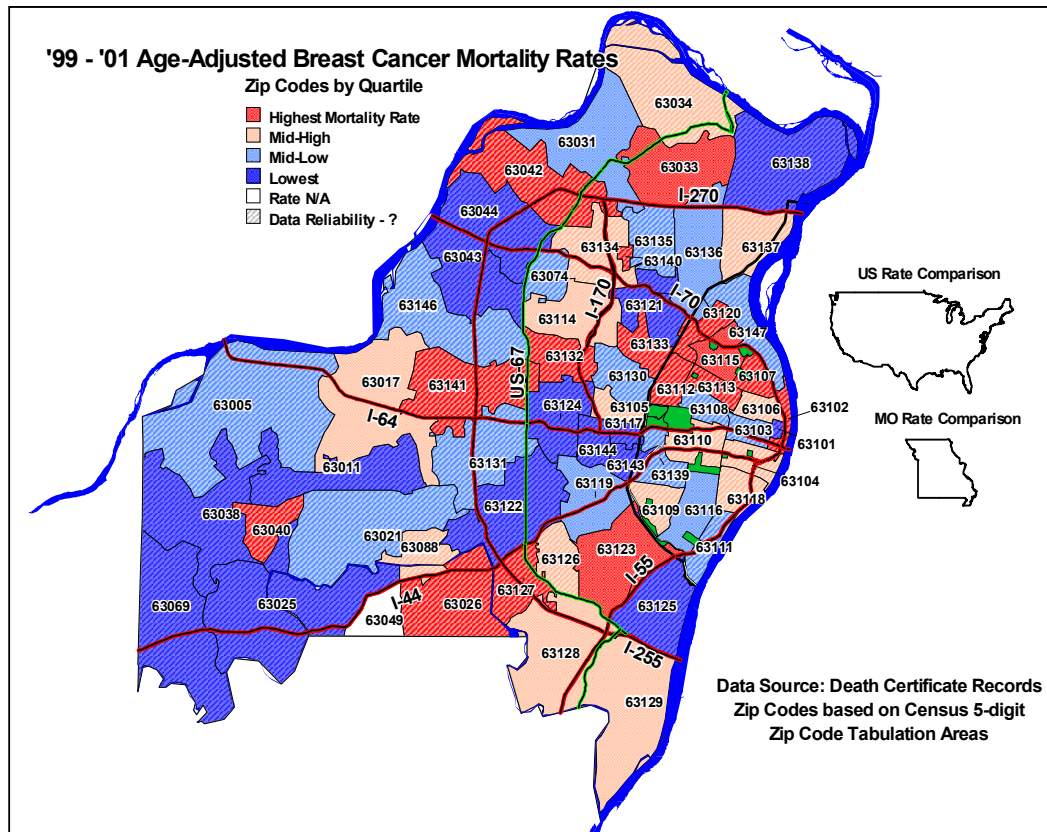
OBSERVATIONS and CONCLUSIONS

The survey research conducted for this focus area lacked an adequate response rate by community health organizations to draw specific conclusions about current prevention activities. However, the non-response is most likely a product of three factors which, in their own right, are a meaningful observation about cancer prevention services in the region.

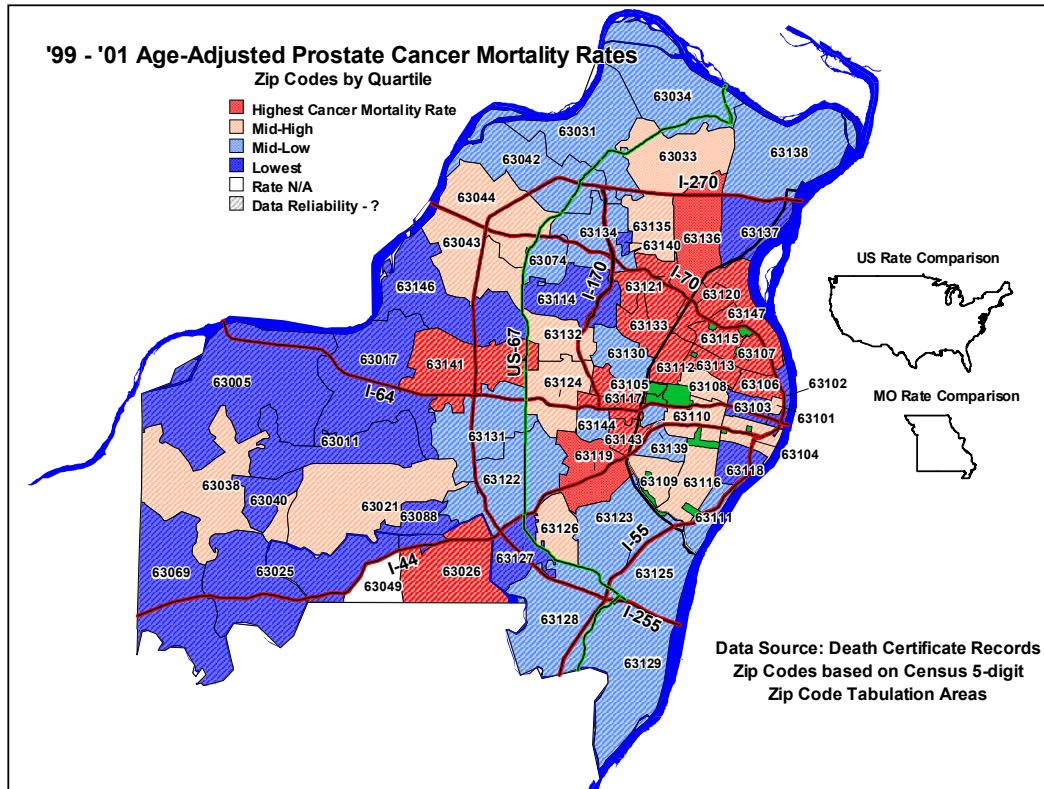
- (1) *Concentration of Community-based Prevention Activities.* There is a concentration of awareness and screening activities within a few community health organizations. The American Cancer Society appears to be the flagship organization for awareness campaigns and educational materials.
- (2) *Secondary Prevention is a Medical Procedure.* Since screening services for cancer involves specialized procedures, medical care institutions – from community health centers to the specialized Siteman Cancer Center – have a dominant role in the community's access to these services. Given the role of medical care providers in secondary prevention of cancer, the effect of insurance coverage on disease prevention, especially from a community health perspective, must be acknowledged.
- (3) *Research and Treatment Funding.* Cancer has attracted millions of dollars from national and local funders. Most of this funding has been directed toward research and treatment, two areas outside the realm of community health. Thus, many organizations that indicated they were involved with community health services related to cancer were truly providers of treatment and, in some cases, social support services for cancer patient survivors.

Maps

3.2 Map 1. '99 - '01 Age-Adjusted Breast Cancer Mortality Rates



3.2 Map 2. '99 – '01 Age-Adjusted Prostate Cancer Mortality Rates



3.2 Appendix 1.

The following table has been abstracted from another section of this report that discusses evidence-based strategies for each of the ten focus areas. Below are recommended evidence-based strategies and best practices for breast cancer and prostate cancer.

Recommended Prevention Activities for Breast and Prostate Cancer

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
Clinical Preventive Services	<ul style="list-style-type: none"> None recommended for breast or prostate cancers 	<ul style="list-style-type: none"> Screening mammography with or without clinical breast exam, every 1-2 years for women 40 and older [The U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to recommend for or against routine screening for prostate cancer using prostate specific antigen (PSA) testing or digital rectal examination (DRE)]
Community Preventive Services	<ul style="list-style-type: none"> Community media campaigns coupled with education to promote breast cancer screening Community small media (tailored and non-tailored) to promote breast cancer screening Client reminders to promote breast cancer screening Incentive programs for clients, in conjunction with client reminders, to promote breast cancer screening 	<ul style="list-style-type: none"> Regular mammography every one to two years for women 40 and older

Section 3.3

THE DATABOOK

Released:
Summer 2005

A Research Report
Prepared for the
St. Louis Regional
Health Commission
by Inneval LLC

Community Health Infrastructure Assessment for St. Louis City and County

Focusing on
Prevention of Lead Poisoning

This section has been extracted from a larger report called the Community Health Infrastructure Assessment for St. Louis City and County. For information about the context of the findings, research methods, focus areas and overall conclusions, please refer to the larger report or contact the authors.



ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

INTRODUCTION

“The answer to lead poisoning is prevention. The alternative of intervening only after a child has been harmed is unacceptable and serves neither the interests of the child nor the property owner nor future generations of children.”¹

– National Lead Information Center, 1995

Background and Context

Lead poisoning is a preventable illness that when it strikes, causes irreversible harm to young children, including permanent reductions in intelligence.² Childhood lead poisoning is defined as a blood lead level of 10 micrograms of lead per deciliter of blood. Children from all social and economic levels can be affected by lead poisoning; however, children under six years of age who are living at or below the poverty line and live in older housing (particularly housing built before 1950) are at greatest risk.

Lead-based paint and lead-contaminated dust are the major sources of lead exposure among children in the U.S. Though lead-based paints were banned in 1978, 24 million housing units in the U.S. have deteriorated lead paint and high levels of lead-contaminated house dust.³ Approximately 78% of all homes in Saint Louis County and 94% of all homes in St. Louis City were built before 1979. Other significant sources of lead exposure are drinking water and lead-contaminated soil. Lead-based paint becomes a problem when it breaks down into paint chips and lead dust. The dust can accumulate on children’s hands and toys or it may be inhaled and ingested through normal hand to mouth activity. Lead poisoning can affect almost every system in the human body as the lead is absorbed into the blood and carried throughout the body. It frequently is unrecognized due to its lack of symptoms; however, it can cause behavioral problems, learning disabilities, seizures, coma and death. Of these adverse health outcomes, behavioral problems and learning disabilities are the most common.

¹National Lead Information Center, Lead-Based Paint Hazard Reduction and Financing Task Force, Putting the Pieces Together: Controlling Lead Hazards in the Nation’s Housing, 1995, p. 8.

²as measured by IQ

³Centers for Disease Control and Prevention. <http://www.cdc.gov/nceh/lead/faq/about.htm>

It is estimated that 434,000 children in the U.S. ages one to five have blood lead levels greater than the CDC recommended level of 10 micrograms per deciliter of blood.⁴ The percentage of screened children with elevated blood lead levels is considerably higher in the City of St. Louis (13.6%) than in the State of Missouri (4.4%) and the U.S. (2.2%). In 2003, childhood lead poisoning in the City of St. Louis accounted for 53.1% of all lead poisoned children in Missouri.⁵ Year 2000 data from St. Louis County indicates that the screened prevalence rate was 6.6%, or three times the national statistic. Refer to Map 1 on page 12 for lead poisoning prevalence in the St. Louis region by zip code.

Health disparity

While race is not a leading indicator of lead poisoning, risk factors that contribute to childhood lead poisoning such as poverty, poor housing stock, lack of access to medical care and poor quality medical care are higher among minorities. Fifty percent of the children screened and reported to the City of St. Louis Health Department in 2003 were African American, which is close to the proportion of African Americans residing in the City. However, African American children accounted for 78.6% of all lead poisoned children and comprised 72.0% of all newly identified cases in the City in 2003.

Primary Prevention and Secondary Prevention

Prevention of lead poisoning is categorized as *primary* or *secondary*. Primary prevention includes the removal of environmental exposure to lead. The principal source of environmental lead is lead-based paint. This may occur in the home or other places frequented by children, such as the yard, a playground or a day care center. Secondary prevention involves screening children for elevated blood lead levels. An elevated blood level indicates the child is being or has been exposed to environmental lead. Medical and environmental interventions depend on the blood lead level. Secondary prevention generally identifies the problem of lead poisoning after it exists and in some cases, is already well-established and irreversible neurological damage has occurred.

⁴<http://www.cdc.gov/nceh/lead/faq/about.htm>

⁵Childhood Lead Poisoning in the City of St. Louis, Annual Report 2003. City of St. Louis Department of Health. [http://stlouis.missouri.org/citygov/health/CLPPP%202003%20Annual%20Report%20\(Final\).pdf](http://stlouis.missouri.org/citygov/health/CLPPP%202003%20Annual%20Report%20(Final).pdf)

A Statistical View of Lead Poisoning Prevention in the Region

There are approximately 500,000 housing units in St. Louis City and County that were built before anti-lead paint legislation was enacted. This represents 82% of the total housing stock. Refer to Table 1. Environmental exposure to lead-based paint is a significant problem throughout the region. On a percentage basis, the problem is larger in St. Louis City (94% of housing units built before 1979), but the absolute number of housing units is two times greater in St. Louis County.

3.3 Table 1. Housing Units in St. Louis City and County - Census 2000

	St. Louis County		St. Louis City		TOTAL	
<i>With Lead Paint</i>						
Built 1939 or earlier	42,090	10%	85,545	49%	127,635	21%
Built 1940 to 1949	35,796	8%	28,410	16%	64,206	11%
Built 1950 to 1959	81,611	19%	25,520	14%	107,131	18%
Built 1960 to 1969	90,823	21%	18,249	10%	109,072	18%
Built 1970 to 1979	77,525	18%	8,153	5%	85,678	14%
Subtotal	327,845	77%	165,877	94%	493,722	82%
<i>Lead Free</i>						
Built 1980 to 1989	54,514	13%	6,565	4%	61,079	10%
Built 1990 to 1994	22,303	5%	1,746	1%	24,049	4%
Built 1995 to 1998	15,313	4%	1,689	1%	17,002	3%
Built 1999 to March 2000	3,774	1%	477	0%	4,251	1%
Subtotal	95,904	23%	10,477	6%	106,381	18%
TOTAL	423,749	100%	176,354	100%	600,103	100%

According to Federal guidelines, interventions should be targeted at children less than two years of age because neurotoxicity is greater and lead exposure is more likely to result in a rapid increase in blood lead levels in very young children. Therefore, blood lead level screening is required annually for all children on Medicaid, at ages one and two. Other segments of the population may be screened less frequently based on the risk for environmental exposure. If a child has not been screened according to this guideline, it is recommended that he/she is screened once between ages three and six.

Based on the federal guidelines for Medicaid, approximately 25,000 lead poisoning screenings are required annually in the region. Approximately 37% would be for City residents and 63% for County residents. If 13.6% of screenings in the City resulted in a positive elevated blood lead level result⁶, then approximately 1,250 cases annually would need risk reduction education follow-up and, potentially, interventions to eliminate environmental exposure. Assuming St. Louis County is comparable to the State of Missouri⁷, then approximately 690 cases annually would require risk reduction education follow-up.

Since the City of St. Louis is designated a high-risk area by the Missouri Lead Testing Plan (MLTP), annual screening is required for children ages one through five. In the City of St. Louis, guidelines call for approximately 23,400 children to be screened each year. In 2003, 12,011 children, or about 50% of the target population⁸, were screened for elevated blood lead levels. Of these, 13.6%, or 1,633, required risk reduction education/follow-up. If all children less than six in the City of St. Louis were screened per the MLTP guideline, then approximately 3,200 would require follow-up.

3.3 Table 2. Number of Children by Age in St. Louis City and County –Census 2000

	St. Louis County	St. Louis City	TOTAL
Under 1 year	12,496	4,591	17,087
1 year	12,819	4,824	17,643
2 years	12,173	4,522	16,695
3 years	13,071	4,510	17,581
4 years	13,298	4,973	18,271
5 years	13,760	4,602	18,362
6 years	13,849	5,252	19,101
TOTAL	91,466	33,274	124,740

⁶13.6% is the current prevalence of positive elevated blood lead levels in St. Louis City.

⁷4.4% is the current prevalence of positive elevated blood lead levels in the State of Missouri.

⁸There is a slight discrepancy between the percent eligible screened as reported in the City of St. Louis *Childhood Lead Poisoning Prevention Program Annual Report 2003* and the figure reported herein. The discrepancy is due to a different denominator. The *Annual Report* states there are 28,369 children less than 6 years old in St. Louis. This RHC report states there are 23,431 children ages 1 through 5, the recommended age range for screening children.

SURVEY RESULTS

As part of a comprehensive examination of primary and secondary prevention services for ten focus areas in St. Louis City and County, the RHC identified lead poisoning prevention activities by surveying schools, places of worship, hospitals, health centers, funders and community health organizations. Two community forums were organized to collect qualitative data and receive feedback on survey results. Results of this research process are summarized herein.

Community health organizations

- Of the eight organizations that completed a *Focus Area Survey for Lead Poisoning*, seven distinct programs were reported. The majority of the programs cited a specific program model, but only one of the programs provided either a theoretical or evidence basis for their activities. Only two of the programs were lead-specific, while the other five were part of broad-based health initiatives (the majority of these were part of Parents as Teachers programs). Of the two lead-specific programs, one was a comprehensive lead prevention program (lead poisoning prevention, testing and abatement) while the other was limited to education and awareness. Six programs indicated targeting specific populations, with the most common criteria being age (children of various ages), families with children and pregnant women, income level and geographic location.

Places of worship

- By comparison to other focus areas, places of worship did not frequently provide or manage lead poisoning prevention activities.

Schools

- Schools are active partners with the Department of Health for secondary prevention of lead poisoning. They assist with identification of students who have not been screened for lead poisoning and are an important referral source.
- School age students are beyond the target age (12 to 24 months) for screening.

Funders

- Lead poisoning prevention was one of the top focus areas in which local funders are investing prevention dollars.
- Two funders reported providing funding for primary and/or secondary prevention of lead poisoning for a cumulative annual total of \$35,000.

Health centers

- Health centers offer blood lead level testing to children and in some cases it is provided as part of prenatal care.

Hospitals

- Three hospitals reported providing tertiary prevention (case management, follow-up and monitoring of children exposed to lead) and secondary prevention (blood lead level screening). Few additional prevention activities were reported.

COMMUNITY RESPONSE

At a forum organized by the RHC, community members provided responses to the survey data and commented on the status of primary and secondary prevention services for lead poisoning.

General comments and observations

- The medical community is not very involved in primary or secondary lead poisoning prevention.
- Lead poisoning is not seen as an urgent matter.
- Lead prevention practices do not focus on housing.
- While there are many services available, there is fragmentation of services as well as duplication of services.
- There is a need for more primary prevention, specifically environmental remediation.
- Many organizations lack infrastructure and capital to provide primary prevention services which can be costly.

Recommendations and opportunities

- Increase the use of evidence based strategies.
- Create map of lead poisoning and examine housing; move block by block to eradicate.
- Develop and implement a regional strategic plan.
- Conduct a cost benefit analysis to determine best approach to dealing with this problem.
- Increase education and awareness of the dangers of lead poisoning in St. Louis City and County.

OTHER CONSIDERATIONS

Current Research

Current research on lead poisoning prevention has been conducted by the City of St. Louis Department of Health and the Lead Coalition. Their most recent reports are *Childhood Lead Poisoning in the City of St. Louis, Annual Report 2003* and *Lead Canaries: The Tragic Tradition of Childhood Lead Poisoning in St. Louis*, respectively. Hyperlinks for each can be found in the footnotes.

Current Planning

According to the St. Louis Lead Prevention Coalition's 2004-2005 Strategic Action Plan, the following action steps will be taken:

Action Step 1: Public Awareness/Education/Advocacy

All community members must be aware that lead is a problem, be motivated to address the lead issue and know and advocate for what can be done to solve the problem.

Strategies 2004-2005:

- Increase public awareness via media campaign
- Conduct targeted outreach efforts to physicians, parents
- Expand Lead Poisoning Prevention Month activities to entire metropolitan area
- Upgrade website
- Advocate for effective lead policies and laws

Action Step 2: Regional Planning & Coordination

The St. Louis metropolitan area has no plan for strategically solving the complex issues of lead on a regional basis.

Strategies 2004-2005:

- Provide a collaborative forum and process for addressing regional lead issues.
- Identify gaps, potential partners and existing duplication of services.
- Develop a regional plan focusing on primary and secondary prevention and secure resources to assist communities to implement the plan.

Action Step 3: Lead Hazard Reduction

Lead hazards must be eliminated from our region. There is a need for primary prevention programs to provide permanent solutions.

Strategies 2004-2005

- Review existing programs to identify opportunities to implement primary prevention strategies
- Create and demonstrate primary prevention models for communities to replicate
- Advocate for primary prevention legislation and funding allocations

Action Step 4: Creating Solutions

Community groups seeking to address lead need more training and technical assistance. Planners need comprehensive data.

Strategies 2004-2005:

- Expand our training and technical assistance services, offering a minimum of four workshops per year
- Expand partnerships with universities to develop additional data collection strategies
- Create a technical assistance program to provide ongoing mentoring to neighborhood lead projects

SUPPLY and DEMAND: IDENTIFIED GAPS in the COMMUNITY HEALTH INFRASTRUCTURE

One task of the assessment project was to identify gross differences between supply and demand of prevention services. The way this difference was calculated varied by focus area, but in most cases the demand for primary prevention was estimated. To demonstrate the demand for lead poisoning prevention services, the number of children to be screened is reported. In the St. Louis City, 23,400 children need lead poisoning screening annually. According to the St. Louis City Health Department, the health care system provided approximately one-half of the needed screenings in 2003. In the St. Louis County, 25,000 children need lead poisoning screening annually and there is no centralized system for tracking lead screening in St. Louis County.

The results of lead screening lead to educational follow-up and, in some cases, environmental assessment or remediation. If screening were at the recommended volume in St. Louis City, then 3,200 cases would require educational follow-up and, in some cases, environmental assessment or remediation. In 2003, St. Louis City inspected homes of 1,076 cases of elevated lead levels as determined by the lead clinic. Based on the structure age, there are up to 165,000 housing units that may require remediation in St. Louis City. In 2003, the City Lead Hazard Team performed 80 home remediations. In St. Louis County, there are up to 327,000 housing units that may require remediation. In 2003, the St. Louis County Department of Health conducted 612 environmental assessments for lead and St. Louis County government⁹ coordinated 129 remediations.

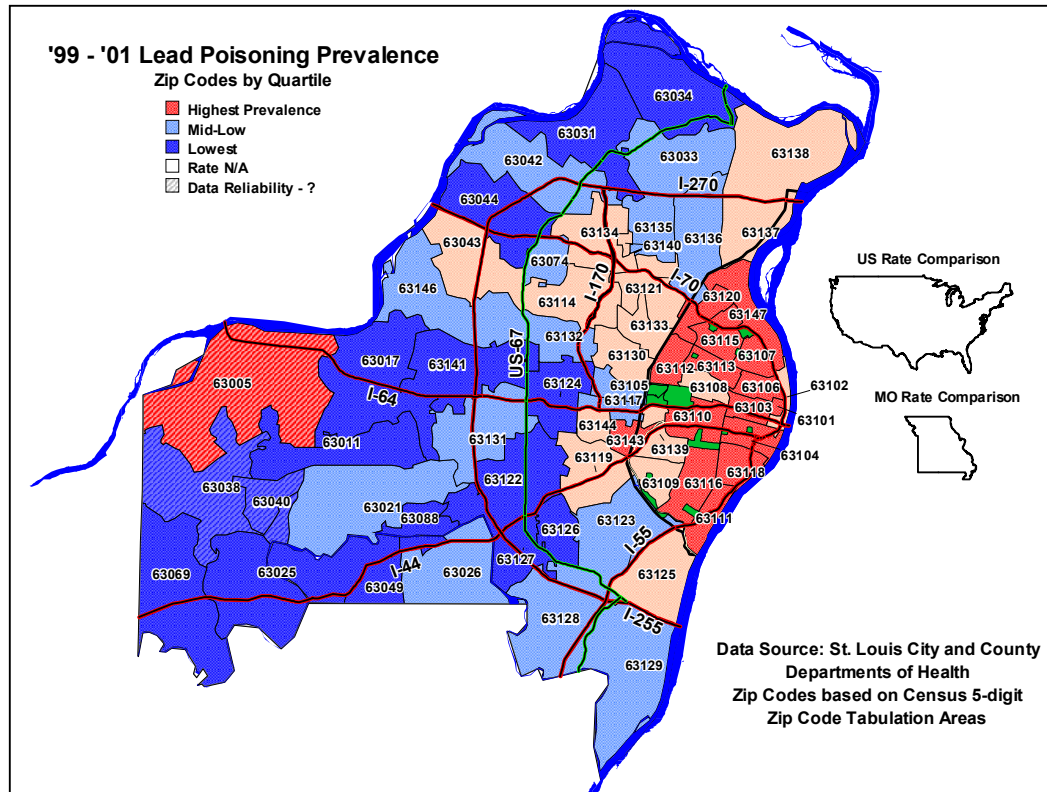
⁹St. Louis County Department of planning conducts remediations and works closely with St. Louis County Department of Health with referrals and elevated lead level cases.

OBSERVATIONS and CONCLUSIONS

- Current systems to eradicate lead poisoning are not meeting stated goals. Current screening activities for elevated blood lead levels reach about one-half of the high-risk population.
- Early detection is a futile activity when environmental exposure continues.
- Resources for abatement and remediation of housing units are not available at the scale needed to fully address the problem.
- Given the interplay between medical care, public health, housing management and development/rehabilitation, the coordination for successful lead prevention is complex.
- Screening and education activities seems to be targeted to high-risk populations, including high-need zip codes, but limited resources seems to constrain reach of remediation.

Maps

3.3 Map 1. 1999 Lead Poisoning Prevalence



3.3 Appendix 1.

The following table has been abstracted from another section of this report that discusses evidence-based strategies for each of the ten focus areas. Below are recommended evidence-based strategies and best practices for lead poisoning.

Recommended Prevention Activities for Lead

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
Clinical Preventive Services	<ul style="list-style-type: none"> Counseling families about the primary prevention of lead exposure 	<ul style="list-style-type: none"> Universal screening for elevated lead levels by measuring blood lead at least once at age 12 months is recommended for: <ul style="list-style-type: none"> All children at increased risk of lead exposure All children with identifiable risk factors All children living in communities in which the prevalence of blood lead levels requiring individual intervention, including residential lead hazard control or chelation therapy, is high or undefined Targeted screening in states or localities where an exact community (neighborhood, zip code, etc.) prevalence rate has been established Routine screening for lead exposure in asymptomatic pregnant women
Community Preventive Services	<ul style="list-style-type: none"> Residential lead hazard control and abatement * 	

* The Task Force notes that recommendations regarding the primary prevention of lead poisoning by population-wide environmental interventions are “beyond the scope of the Task Force.”

NOTE: Type that is bolded represents recommendations for which there is sufficient evidence to create a standard; plain type represents recommendations for which although the evidence may be insufficient, these recommendations may be adopted as standards “on other grounds,” according to the Task Force. For example, there is insufficient evidence to recommend for or against: (1) Routine screening for lead exposure in asymptomatic pregnant women, but recommendations against such screening may be made on other grounds and (2) Counseling families about the primary prevention of lead exposure, but recommendations may be made on other grounds.

Section 3.4

THE DATABOOK

Released:
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A Research Report
Prepared for the
St. Louis Regional
Health Commission
by Inneval LLC

Community Health Infrastructure Assessment for St. Louis City and County

Focusing on Asthma

This section has been extracted from a larger report called the Community Health Infrastructure Assessment for St. Louis City and County. For information about the context of the findings, research methods, focus areas and overall conclusions, please refer to the larger report or contact the authors.



ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

INTRODUCTION

Background and Context

Asthma is a significant health problem among children. It is a complex disease that is increasing in prevalence in the United States. Nationally, asthma accounts for over 2.2 million pediatrician visits and 28 million days of restricted activity each year. According to area studies, 15 to 20 percent of children under 18 suffer from asthma in certain areas of St. Louis as compared to the national average of 6.3 percent.¹ Poor, inner-city minorities have disproportionately high rates of morbidity and mortality from asthma. Refer to Figure 1.

The cause and cure for asthma remains unknown, but science shows that asthma can be well controlled. Many community health interventions are targeted at controlling asthma, primarily via education, medical care, medications, and reduction in asthmatic attack triggers. In terms of this assessment of primary and secondary prevention activities, asthma activities are quite limited based on attributes of the disease. Primary prevention activities generally include public awareness and improving environmental factors which may cause asthma or asthma attacks. Secondary prevention activities usually influence early and appropriate diagnosis.

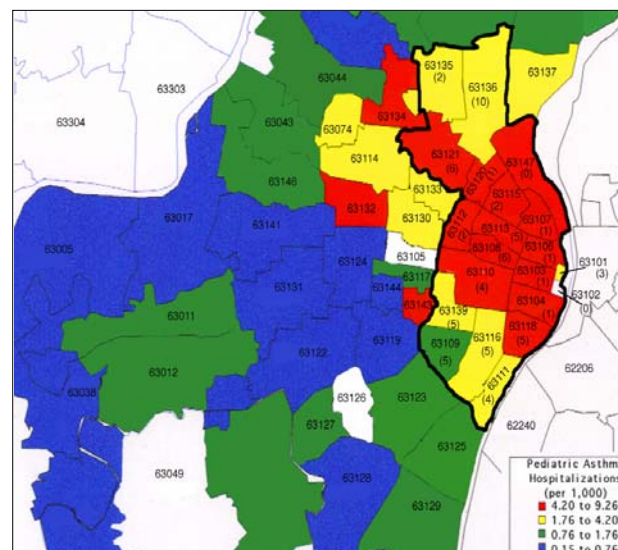


Figure 1. Pediatric Asthma Hospitalizations
(Source: St. Louis Asthma Consortium)

¹http://www.asthma-stlouis.org/asthma_facts.htm

The onset and persistence of asthma can be associated with a variety of environmental factors, including exposure to viral respiratory illnesses, active or passive cigarette smoke, and a variety of household allergens. Common sources of allergens include house dust, mites, dogs, cockroaches, and rats. In inner-city neighborhoods, increased levels of allergen exposure may work in combination with larger family size, poor housing quality, and increased mold and dampness to influence the development and severity of asthma.

Health Disparity

According to the National Institute for Environmental Health Sciences, inner-city disadvantaged and minority children appear to be at greater risk of respiratory illness, especially asthma. Previous NIEHS-supported studies (the Six- and Twenty-Four Cities Studies) have demonstrated increased respiratory illness and lower lung function associated with air pollution among white children in suburban and rural communities. In the St. Louis region, African American patients utilize the emergency room 2.9 times more than Whites. This difference of nearly 3-fold indicates significant differences in the asthma management, and in some cases, initial diagnosis.

SURVEY RESULTS

As part of a comprehensive examination of primary and secondary prevention services for ten focus areas in St. Louis City and County, the RHC identified asthma awareness and management activities by surveying schools, places of worship, hospitals, clinics, funders, and community health organizations. Results of this research process are summarized herein.

Community health organizations

- Of the ten organizations that completed a Focus Area Survey for Asthma, 16 distinct programs were reported. There is not a particularly common type among these. Where prevention is emphasized, the majority of programs rely on education and information dissemination only. About one-fourth of the programs were part of more comprehensive clinical care initiatives. For the few programs that did cite specific prevention intervention activities, these included reducing air pollution (primary prevention), screening for asthma (secondary prevention) and provision of influenza vaccine to asthmatics (primary prevention). While half of the programs did report using a particular program model, the great majority could cite no theoretical or evidence basis for their program. Organizations generally target populations by age or geographic location; however, nearly one-third of the respondents reported no effort to target their services.

Places of worship

- Places of worship did not conduct asthma awareness or management activities.

Schools

- Teachers and nurses primarily focus on awareness for all students and parents.
- Some schools have demonstrated an ability to identify new cases of asthma or assist with an appropriate diagnosis.
- Most school-related activities are not organized around disease management for students diagnosed with asthma.

Funders

- Asthma was reported as one of the top five focus areas for involvement by local funders.
- Three reported providing funding for asthma activities/services for a cumulative annual total of \$185,000.

Community health centers

- None of the health centers reported a special asthma prevention program or services. However, they are involved as primary care providers and coordinators of medical management of asthma once a patient is diagnosed.

Hospitals

- Despite the distribution of written materials, media campaigns and an occasional self management program, the majority of hospitals reported little or no activity in the area of asthma prevention.

COMMUNITY RESPONSE

At a forum organized by the RHC, community members provided responses to the survey data and commented on the status of primary and secondary prevention services for asthma.

General comments and observations

- A person cannot prevent onset of asthma, rather one can only prevent triggers.
- There is a fragmentation of services for asthma.
- There is a considerable lack of coordination between organizations providing asthma education and services.
- Asthma is not usually considered a life threatening condition hence less importance is placed on and education services by the greater community.
- There are organizations working with pharmacists and clinics to educate and help prepare professionals for working with families.
- Individuals lack knowledge regarding available resources as well as money for supplies necessary to manage the disease.
- Many schools lack time and resources to be able to work with children and their families.

Recommendations and opportunities

- More theory and evidenced-based programming is needed.
- Childhood asthma education/programs should be targeting low-income and African American communities that have high need and less access to care.
- Need legislative support. For example, children are unable to carry their own inhalers at school.
- Integrate asthma awareness and education into other health areas (e.g., links between obesity and asthma).

OBSERVATIONS and CONCLUSIONS

- Asthma is a leading health problem, especially among children living in the high need zip codes.
- Asthma cannot be prevented per se. Asthma attacks can be prevented through medication management or primary prevention activities that address environmental triggers. Most activities reported by assessment participants in the St. Louis region are focused on the former.
- Secondary prevention of asthma (e.g., early and appropriate diagnosis) was addressed by community-based organizations, especially schools where symptoms of many children are observed.
- Although asthma is a significant health problem for all age groups, especially the elderly, programs with secondary prevention emphasis addressed the needs of children.
- Survey results suggest that children in high need zip codes are targeted for asthma management (e.g., through schools), but outcomes data (e.g., emergency room utilization and hospitalizations) suggests many are not reached.
- Early detection activities identify new cases. To prevent over-utilization of emergency room services and hospitalization, asthma cases need disease management strategies. Disease management may be provided through a coordinated effort of community-based organizations, including schools. Evidence of this coordination and its benefits has been reported in this assessment.

Section 3.5

THE DATABOOK

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Community Health Infrastructure Assessment for St. Louis City and County

Focusing on Tobacco Use

This section has been extracted from a larger report called the Community Health Infrastructure Assessment for St. Louis City and County. For information about the context of the findings, research methods, focus areas and overall conclusions, please refer to the larger report or contact the authors.



ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

INTRODUCTION

Background and Context

In the 2003 American Lung Association State of Tobacco Control report, Missouri received the following grades that report indicate “how well state laws measure up to the best in the nation or goals set by federal agencies such as the Centers for Disease Control and Prevention.”

3.5 Table 1. Tobacco Control Report Card Grades for Missouri

Smoke-free Air	F
Youth Access	B
Tobacco Prevention and Control Spending	F
Cigarette Taxes	F

Tobacco use is the leading cause of preventable deaths in the United States. Across the nation each year, approximately 440,000 people die of diseases such as lung cancer, heart disease, chronic obstructive pulmonary disease (COPD)¹, accounting for approximately 20% of all deaths.² The mortality statistics by zip code for lung cancer and COPD can be found in Maps 1 and 2, respectively (located at the end of this section). Each year, more deaths are attributable to tobacco use than to the total combined number of deaths from human immunodeficiency virus (HIV), alcohol use, illegal drug use, motor vehicle injuries, suicides and murders.³

Over 27% of Missouri adults smoke, as compared with the national average of 22% (Table 1). Thirty-three percent of Missouri high school students smoke, while 43% of middle school and 66% of high school students have used some form of tobacco product. Regrettably, Missouri is trending in the wrong direction as rates for adult smoking increased 11% from 1995 to 2003.

¹<http://www.cdc.gov/nceh/dls/tobacco.htm>

²http://www.cdc.gov/nccdphp/bb_tobacco.

³CDC. Health United States, 2003, With Chartbook on Trends in the Health of Americans

3.5 Table 2. Estimated Number of Adult Smokers in the St. Louis Region

	Adult Men		Adult Women		Total	
	Smoker	Non-Smoker	Smoker	Non-Smoker	Smoker	Non-Smoker
St. Louis City and County	131,787	353,151	135,816	414,048	267,603	767,199
					27%	73%

Secondhand smoke also has detrimental effects upon the general public. It causes lung cancer and has been classified as a cancer-causing agent in humans. It is harmful to children, particularly babies and toddlers, as it contributes to the development of pneumonia, ear infections, bronchitis, coughing, wheezing and increased mucus production in healthy children younger than 18 months of age. Secondhand smoke exacerbates the conditions of between 200,000 and one million children with asthma.⁴

Health disparity

Health disparities are commonly reported by race or ethnic group. In the case of tobacco use, however, African Americans and White have similar rates of smoking. The greatest disparity seems to exist by educational attainment. Smoking rates decrease from 44.6% for adults with less than a high school education to 14.9% among those with a college education. Refer to Table 3. While smoking rates may be similar among African Americans and Whites, African American smokers are less likely to quit. Thirty-one percent of African Americans who had smoked in the past reported no current smoking consumption while 49% of Whites reported the same.⁵

3.5 Table 3: Adult Smoking Rates by Education Level

Less than high school education	44.6%
High school education or GED	33.3%
Some college education	23.9%
College education	14.9%

⁴U.S. Environmental Protection Agency (1992). *Respiratory Health Effects of Passive Smoking: Lung Cancer & Other Disorders*. Washington, D.C.: EPA Office of Research and Development.

⁵Missouri Behavioral Risk Factor Surveillance System, Year: 1999. St. Louis Metro

SURVEY RESULTS

As part of a comprehensive examination of primary and secondary prevention services for ten focus areas in St. Louis City and County, the RHC identified tobacco use prevention activities by surveying schools, places of worship, hospitals, clinics, funders, and community health organizations. Results of this research process are summarized herein.

Community health organizations

- Of the six organizations that completed a *Focus Area Survey for Tobacco Use*, 15 distinct programs were reported. All 15 programs reported focusing their efforts on primary prevention, with about one-third focused specifically on prevention of tobacco use, about one third doing tobacco use prevention in the context of substance abuse more generally, and the remaining one-third focused even more broadly on disease prevention and health promotion. Slightly more than one-third of the programs cited a specific program model and over half of the programs provided either a theoretical or evidence basis for their approach. Named models included programs such as Life Skills and Second Steps; among the theoretical foundations cited were resiliency skills, leadership development training, health belief model, theory of reasoned action and stages of change theory. Four-fifths of the programs indicated targeting specific populations for tobacco use prevention; the various criteria used included age, geographic location, personal risk factors, income level and race/ethnicity.

Places of Worship

- Six of 65 responding places of worship offered activities or services related to tobacco use.

Schools

- Schools play an instrumental role in tobacco use prevention.
- Twenty-seven of the 65 responding schools indicated involvement with prevention of tobacco use for their students. The educational messages were integrated with other programs such as Abstinence by Choice program or were provided by a third party, such as the American Lung Association.

Funders

- At the time of this survey, tobacco use was not a top focus areas reported by local funders. However, the Missouri Foundation for Health launched a multi-million dollar tobacco use prevention strategy in 2004.
- Two funders reported providing funding for primary and/or secondary prevention of lead poisoning for a cumulative annual total of \$32,000.

Health centers

- Two health centers reported providing tobacco education for adults, while only one reported the distribution of written materials, use of billboards and a help line.
- Health centers provide anti-smoking counseling to patients, but do not appear to take on anti-smoking initiatives at a community level.

Hospitals

- Seven hospitals indicated distribution of written materials and six sponsor educational programs for adults. Others reported the use of media campaigns, support groups, youth prevention classes and tobacco cessation.

COMMUNITY RESPONSE

At a forum organized by the RHC, community members provided responses to the survey data and commented on the status of primary and secondary prevention services for tobacco use.

General comments and observations

- St. Louis is severely lacking in tobacco prevention policies.
- Social norms make tobacco use acceptable.
- In St. Louis, there is a lack of mass media campaigns to raise awareness about tobacco use.
- Prevention programs should be targeted to school aged children.
- While there are programs available to the community, they are fragmented, lack resources and are often inaccessible due to cost, location transportation, etc.
- There is a considerable lack of coordination among organizations.

Recommendations and opportunities

- Create ways to shift social norm.
- Develop and implement efforts that address the problem in a multi-faceted manner (e.g., use of media campaign along with efforts to create more tobacco prevention policies).
- Policy holds the key to a reduction in smoking rates.
- Turn focus of programs and education more toward youth as prevention versus smoking cessation.
- Create more smoke free environments.

OTHER CONSIDERATIONS

Only 3.6% of the recommended amount is spent on tobacco use prevention activities by the State of Missouri

The Centers for Disease Control and Prevention (CDC) recommends that states spend a minimum of about \$32.8 million to establish state-wide, comprehensive tobacco control programs that will prevent the initiation of tobacco use among youth, promote cessation among youth and adults and eliminate the exposure to secondhand smoke for non-smokers. In 2003, Missouri committed \$1.166 million, or 3.6% of the recommended amount, to tobacco prevention and cessation programs.

Hospitals are becoming smoke free zones

At the time of this report's writing, SSM Health Care was in the process of converting their hospital campuses to smoke free zones.

Policy developments are underway

Currently, efforts are underway for new ballot initiative in 2006. It includes a constitutional amendment authorizing a 50-cent increase in the tobacco tax by the State of Missouri. The funds will generate approximately \$270 million per year and will be dedicated to funding tobacco use education and cessation, improving access to health care, and funding medical research.

Missouri ranks at bottom in comparative analysis of taxes

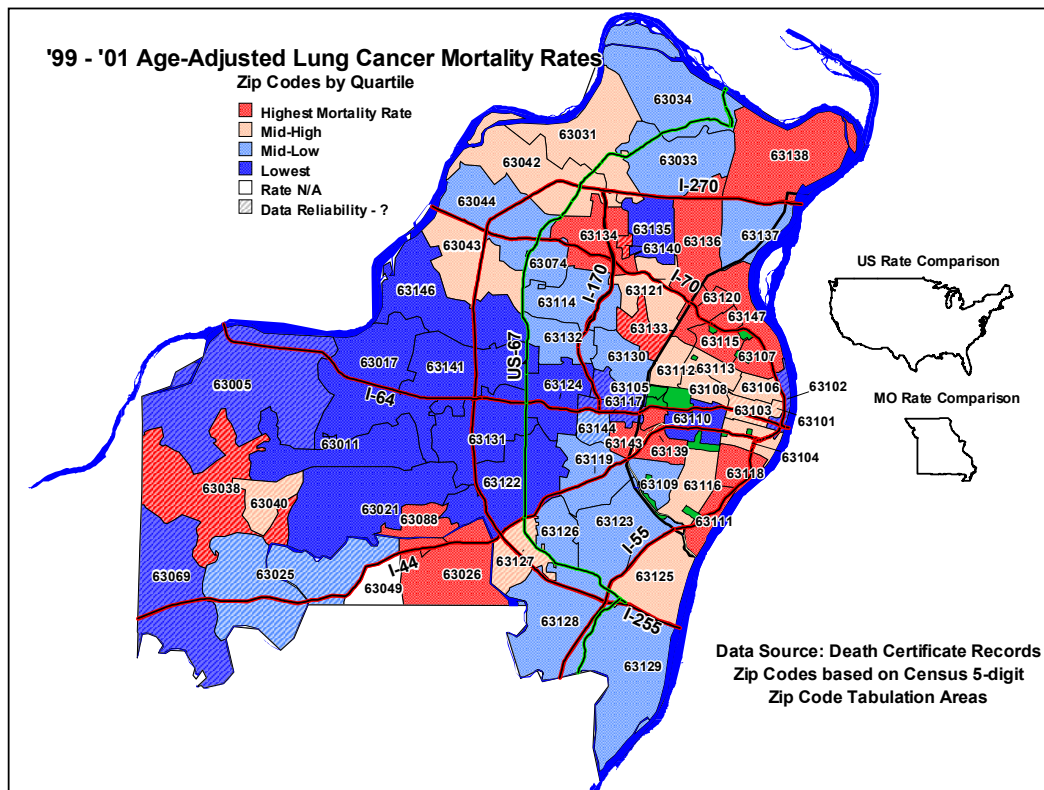
For every 10% increase in the price of cigarettes, smoking rates increase among adults and teens by 4% and 7%, respectively. The tax on cigarettes in the state of Missouri is 17 cents per pack, which is 77% lower than the average tax nationally of 75 cents. Compared with the rest of the nation, Missouri has the fourth lowest cigarette tax. According to the Campaign for Tobacco-Free Kids, each pack of cigarettes sold in Missouri costs \$7.72 in smoking-related health care expenses and lost productivity. Yet, each pack produces only 17 cents in tax revenues to offset these costs.

OBSERVATIONS and CONCLUSIONS

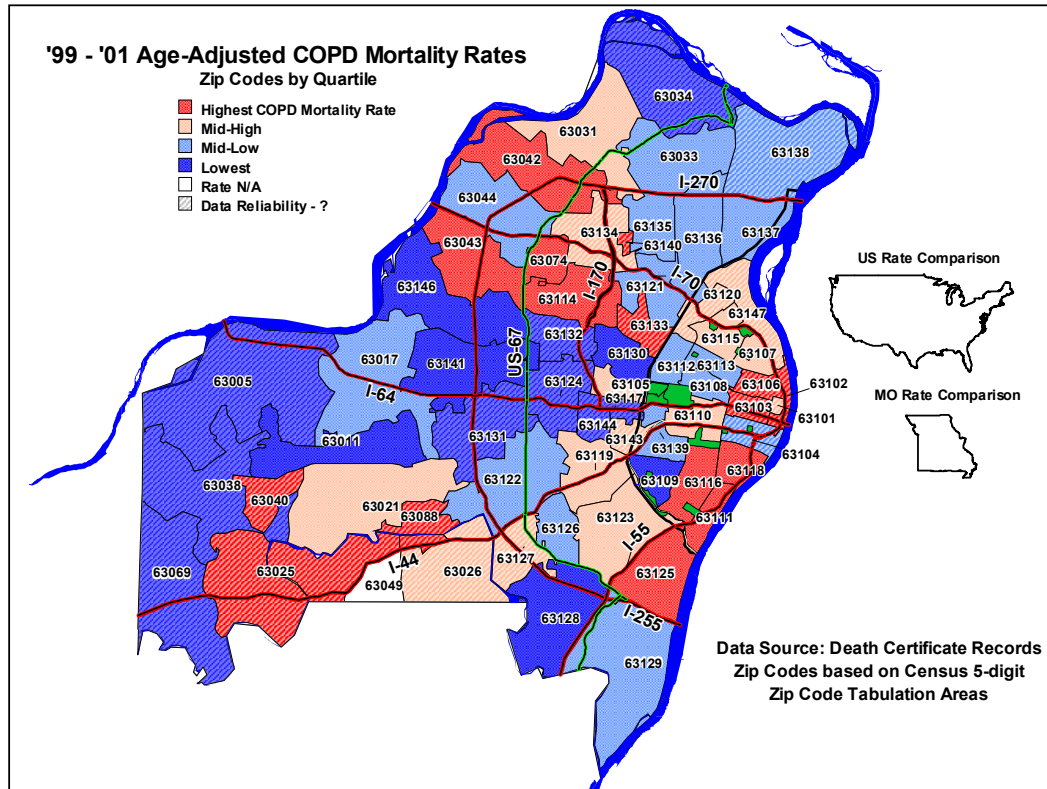
- While smoking cessation programs may be effective at an individual level, they are unlikely to make a significant public health impact.
- Prevention of smoking initiation by teens (and other tobacco product) seems to be the best strategy for long-term change.
- Clean air policies can change cultural norms about tolerance of second hand smoking and acceptability of smoking, in general.
- While there are many primary prevention activities in operation by national associations, universities, and state-sponsored programs, the community forum respondents overwhelmingly reported that needs of schools were not being met.
- Many community members reported that community leaders (i.e., elected officials) need to embrace tobacco prevention issues with firm anti-smoking policies.
- Although survey data could not confirm this finding, competition for resources and reputation seems to be high among organizations committed to tobacco use prevention.
- Tobacco use prevention reported few collaborations with community health organizations committed to chronic diseases, such as cancer, diabetes, heart disease, and asthma.
- With the exception of school-based programs, survey data suggests that prevention services are not directed to high-need zip codes.

Maps

3.5 Map 1. '99 – '01 Age-Adjusted Lung Cancer Mortality Rates



3.5 Map 2. '99 - '01 Age-Adjusted COPD Mortality Rates



3.5 Appendix 1.

The following table has been abstracted from another section of this report that discusses evidence-based strategies for each of the ten focus areas. Below are recommended evidence-based strategies and best practices for tobacco use prevention.

Recommended Prevention Activities for Tobacco Use Prevention

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
Clinical Preventive Services	<ul style="list-style-type: none"> • Provide tobacco cessation interventions for all adults that use • Provide augmented pregnancy-tailored counseling to pregnant women who smoke • Anti-tobacco messages are recommended for inclusion in health promotion counseling of children, adolescents and young adults 	<ul style="list-style-type: none"> • Screen all adults for tobacco use • Screen all pregnant women for tobacco use
Community Preventive Services	<ul style="list-style-type: none"> • Smoking ban and restrictions to reduce exposure to environmental tobacco smoke • Increasing the unit price for tobacco products to prevent initiation and increase cessation • Mass media campaigns combined with other interventions (e.g., increase in excise taxes) to prevent initiation and increase cessation 	<ul style="list-style-type: none"> • Provider reminder systems (reminders to identify patients who smoke and counsel to quit) • Provider reminders combined with provider education (efforts to teach providers how to counsel patients to quit smoking) • Reducing patient out of pocket costs for effective treatments for tobacco use and dependence by providing programs in healthcare centers or providing insurance coverage for smoking cessation programs or nicotine treatment • Patient telephone support combined with other interventions

Section 3.6

THE DATABOOK

Released:
Summer 2005

A Research Report
Prepared for the
St. Louis Regional
Health Commission
by Inneval LLC

Community Health Infrastructure Assessment for St. Louis City and County

Focusing on
Prevention of HIV/AIDS/STDs

This section has been extracted from a larger report called the Community Health Infrastructure Assessment for St. Louis City and County. For information about the context of the findings, research methods, focus areas and overall conclusions, please refer to the larger report or contact the authors.



ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

INTRODUCTION

Background and Context

Reports of an emerging infectious disease in 1981 led to investigations that revealed an infectious agent leading to immunosuppression and opportunistic infections. The common thread of shared body fluids through sexual contact, drug paraphernalia, blood transfusions, and perinatally from mother to child was discovered. By 1983 the retrovirus was isolated and an antibody test was developed. HIV was discovered. After more than two decades, the HIV epidemic continues. The center of Disease Control and Prevention estimates that there were 850,000-950,000 prevalent cases of HIV/AIDS in 2000.

In the United States, the principle means of contracting HIV are through sexual activities and sharing of drug needles. There is no cure and no vaccine. HIV/AIDS is 100% preventable. The national prevalence rate of 14.9 AIDS cases per 100,000 in 2001 is the highest rate in the developed countries. In adult men the prevalence was 28.1; in women it was 9.1. Due to the various ways of capturing and reporting data, some statistics are of people with HIV but not AIDS and some reports are of the cases that have progressed to AIDS. At the end of 2001 there were 4,511 persons living with HIV in the State of Missouri. In the Saint Louis region in 2000 there were 385 AIDS hospitalizations and 80 AIDS deaths. Refer to Map 1 on page 10 for HIV infections the St. Louis region by zip code.

Classification of HIV disease is determined by the symptoms and the CD4¹ count. The three clinical stages are asymptomatic or acute HIV infection, symptomatic, and AIDS-defining conditions. The three CD4 evaluation points are ³ 500, 200-499, and <200. Over-simplified, an individual who is asymptomatic with a CD4 count ³500 has HIV. An individual with opportunistic infections and a CD4 count < 200 has progressed to AIDS.

¹A blood level test of immunodeficiency.

Although first labeled as a disease of homosexual males, increasingly new HIV infections are occurring in young heterosexuals. In 2001, 32% of HIV cases reported was female. Of the adult AIDS cases reported in 2001, 69% were racial/ethnic minorities. CDC has developed a hierarchical risk classification, listed in order of highest risk: (1) men who have sex with men (MSM), (2) intravenous drug users (IDU), (3) MSM and IDU, (4) heterosexual contact with a person with HIV/AIDS or a primary risk, and (5) receipt of infected blood product or tissue. For men diagnosed in 2000, 53% were infected through sex with other men and 26% through injection drug use. For women diagnosed in 2000, 64% were infected through heterosexual activities and 23% through drug use.

Prevention efforts have been successful in slowing the rate of HIV infection from 150,000 cases annually nationwide in the 1980s to the current estimate of 40,000 cases. After the initial results however among the populations of MSM, IDU, and perinatal infections, the number of new infections has remained constant over the last decade. The CDC has set a national goal of reducing the number of new cases to 20,000 annually. They are stressing prevention in four manners:

1. Working with high risk populations
2. Encouraging testing
3. Working with serodiscordant² couples and those living with HIV/AIDS to encourage safer sex and healthy behaviors
4. Reduce the transmission perinatally by recommending screening for all pregnant women using the opt-out approach and routine rapid testing at labor and delivery for all women whose HIV status is unknown.

Health disparity

HIV/AIDS has reached epidemic proportions greatly affecting the minority populations, as 70% of new cases in 2002 were racial/ethnic minorities. African Americans accounted for 54% of the newly diagnosed and are more than ten times more likely to die of AIDS than Whites. Recently, AIDS became the leading cause of death in African American females aged 25-34 and the third cause of death in African American males of the same age range. This young age-range indicates they could have been infected as early as 15 years of age. In addition to race and ethnicity, poverty, denial, partners at risk, substance abuse, and the presence of other sexually transmitted diseases exacerbate the disparity. Although, the male homosexual population initially saw a decrease in incidence rate, this population continues to be the largest group affected by HIV.

² A relationship where one partner is HIV+ and the other is HIV-.

The Missouri Department of Health and Senior Services has reported on the health disparities among racial/ethnic groups as follows:³

Among racial/ethnic groups, Blacks were disproportionately represented in the HIV/AIDS epidemic. Blacks comprised 19.1% of the population in the St. Louis HIV Region, the rate of HIV incidence per 100,000 population (33.6) among the Black population was 7.3 times higher than the case rate for Whites (4.6) and 3.3 times higher than the regional case rate (10.3). The AIDS incidence (initial diagnosis) rate for Blacks per 100,000 population in 2003 was 7.4, or 6.2 times higher than the case rate for Whites (1.2) and 3.1 times higher than the regional case rate (2.4). Blacks with HIV progressed to AIDS at a case rate (14.7) 10.5 times higher than Whites (1.4) and 3.8 times higher than the regional case rate (3.9) for all populations. For overall HIV disease incidence, the case rate for Blacks (41.0) was 7.0 times higher than the case rate for Whites (5.9) and 3.2 times higher than the regional case rate (12.7) for all populations.

³Missouri Department of Health and Senior Services, Epidemiologic Profiles of HIV/AIDS and STDs in Missouri, 2003 Epidemiologic Profile

SURVEY RESULTS

As part of a comprehensive examination of primary and secondary prevention services for ten focus areas in St. Louis City and County, the RHC identified HIV/AIDS/STD prevention activities by surveying schools, places of worship, hospitals, clinics, funders, and community health organizations. Results of this research process are summarized herein.

Community health organizations

- Of the seven organizations that completed a *Focus Area Survey for HIV/AIDS/STDs*, nine distinct programs were reported. All but one of the programs incorporate primary prevention (behavior change was by far the most common goal), slightly less than half incorporated secondary prevention (HIV testing and counseling was by far the most common activity) and one-third of the programs contained both primary and secondary prevention activities. Two-thirds of the programs cited and described a specific program model and slightly more than half cited either a theoretical or evidence basis for the program. Prevention models described included ones developed and recommended by CDC, academic institutions and the American Red Cross (these program models have specific names, such as *Prevention Case Management*, *Popular Opinion Leader*, and *Mpowerment*). The most common theoretical basis cited was social learning theory. All but one of the programs specified the target population(s) for their services; the most common criteria included gender, age, race/ethnicity and personal risk factors for HIV infection (behavior).

Places of worship

- Six of 53 responding places of worship indicated that they provide HIV/AIDS/STD prevention activities.

Schools

- While screening was reported in one the 65 responding schools, only 43% of schools provided education through workshops, video presentations, speakers, counseling and classes. Much of this education included information on human sexuality, disease symptoms and treatment, and abstinence promotion.

Funders

- HIV/AIDS/STD prevention was one of the top focus areas reported by local funders as an area in which they were involved.
- Three reported providing funding for primary and/or secondary prevention of HIV/AIDS/STDs for a cumulative annual total of \$1.6 million.

Health centers

- All health centers reported HIV and STD testing and most provide risk reduction education. Several indicated that they provide written materials and conduct outreach activities.

Hospitals

- Three hospitals reported distributing written materials, two indicated participating in media campaigns, providing classes, conducting behavioral risk screening and assessment and doing HIV testing.
- Only one reported support groups, case management and outreach activities.

COMMUNITY RESPONSE

At a forum organized by the RHC, community members provided responses to the survey data and commented on the status of primary and secondary prevention services for HIV/AIDS/STDs.

General comments and observations

- Currently organizations are using a “cookie cutter” approach for primary prevention and are not assessing different populations’ education and programming needs to learn about what works within each specific population.
- There is a lack of coordination among organizations.
- Currently African American women are at high risk for HIV/AIDS and this group is not reflected as a target population in the data.

Recommendations and opportunities

- Increase disbursement of resources to high need areas.
- Increase awareness and education to target children, Hispanics and African American Women.
- Increase collaboration across organization types.
- Create ways to reduce stigma and fear in order to increase health behavior (e.g., testing).
- Approaches should be tailored to incorporate cultural and religious issues.

OTHER CONSIDERATIONS

Missouri Behavioral Risk Factor Surveillance System

The Missouri Behavioral Risk Factor Surveillance System in 1999 demonstrated that a 79% of adults in the Saint Louis region believe that school children should begin receiving education about HIV infection and AIDS in elementary school. Sixty-seven percent of this same sample of adults however believed they have no chance of getting infected with HIV and yet, 47 % of the participants have been tested for HIV. With this information in mind, it is critical that general education and prevention activities to the entire population be continued to stress the necessary precautions to those who assume they are not at risk.

Strategic planning

A regional plan for St. Louis could mirror the HIV Prevention Strategic Plan through 2005 developed by the CDC Divisions of HIV/AIDS Prevention. Although 2005 is not a distance date the five goals are:

1. Decrease new infections
2. Increase knowledge of serostatus (e.g., HIV+, HIV-)
3. Increase linkage to prevention, care, and treatment
4. Increase monitoring, capacity, and evaluation
5. Assist in reducing HIV transmission

The specific objectives and strategies would need to be altered due to the local infrastructure. However, interventions must be present on every level for effectiveness. For example, programming should be at the individual, small group, community, structural (ex: needle exchange, school programs), super structural (antipoverty, antidiscrimination), and medical (post-exposure prophylaxis) levels.

Targeted populations

The CDC Division of HIV/AIDS Prevention has identified specific populations that need to be addressed in order to contain the epidemic. They include:

1. MSM - this continues to be the largest number of people reporting AIDS each year
2. IDU - injection drug use has directly or indirectly accounted for more than one-third of AIDS cases
3. Heterosexual Adults-HIV transmission is estimated to occur 75% through sex with men for women
4. Minorities – although African Americans are only 12% of the population they account for 38% of AIDS cases and 36% of AIDS deaths cumulatively; 55% of new diagnosis of HIV are African American
5. Youth – Young women are increasingly being affected by HIV; in 2001, 45% of HIV infections were in the population aged 13-24 years; African American youth have been disproportionately affected, accounting for 56% of this group.
6. Perinatal transmission – this has been an area of success as the number of infants born with HIV has decreased 80% of the past decade however as more women survive due to drug therapy this is an effort that must be maintained
7. Correctional facility inmates – 12% of inmates are diagnosed with HIV while incarcerated; 25% of all people with HIV pass through a correctional facility; the rates for confirmed AIDS cases in state and federal facilities in 4 times higher than the rate in the general population

Metro AIDS and others

Since Metro AIDS is the primary vehicle in the region for distribution of resources and represents all angles of HIV/AIDS prevention strategies, they are an important partner for the entire community. Others who have significant roles in HIV/AIDS prevention are the medical school, hospitals, ConnectCare, and private physicians with large HIV-infected case loads, organizations such as Doorways who provide housing, support organizations such as Food Outreach, and drug detoxification providers such as Queen of Peace. Through these providers and organizations there is access to those who are already diagnosed and their current partners who are at significant risk.

Government public health departments

St. Louis City and County health departments are vital components in the prevention of HIV/AIDS/STDS because of the role in surveillance as well as being a resource for testing and education.

OBSERVATIONS and CONCLUSIONS

- Since federal funding for HIV/AIDS, in particular, requires established evidence-based and/or theory-driven models for disease prevention, many community health organizations which receive federal funds have clearly defined strategies for their activities. This focus area demonstrates how disease prevention programs are made more consistent by funding policies of grantmakers, such as the federal government.
- Unlike other focus areas in this assessment, HIV/AIDS/STDs are infectious diseases. The public health and medical care system responds differently – with immediacy and vigor – to change behaviors that spread infectious disease.
- Organizations principally committed to HIV/AIDS are able to access supplemental funding for STD prevention activities. In turn, a diversified funding source may stabilize and sustain HIV/AIDS programs.
- Less than one-half of schools reported providing education about HIV/AIDS/STDs. While age-appropriate educational programming is of concern with this topic, all schools should be addressing this serious public health matter directly. Many options for integrating HIV/AIDS/STDs in science and health curriculums are available.
- While there are specialized services provided by places of worship for people affected with HIV/AIDS/STDs, prevention is addressed by very few.
- Survey data suggests that prevention services are targeted to people at the greatest risk for infection.

3.6 Appendix 1.

The following table has been abstracted from another section of this report that discusses evidence-based strategies for each of the ten focus areas. Below are recommended evidence-based strategies and best practices for HIV/AIDS/STDs.

Recommended Prevention Activities for HIV/STD

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
Clinical Preventive Services	<ul style="list-style-type: none"> • All patients should be counseled about effective means to avoid HIV infection • All adolescent and adult patients should be advised about risk factors for HIV infection and other STDs and counseled appropriately about effective measures to reduce the risk of infection • Counseling should be tailored to the individual risk factors, needs and abilities of each patient * • Injection drug users should be advised about measures to reduce their risk and referred to appropriate drug treatment facilities 	<ul style="list-style-type: none"> • Physicians should assess risk factors for human immunodeficiency virus (HIV) infection by obtaining a careful sexual history and inquiring about injection drug use in all patients • Periodic screening (voluntary) for HIV infection is recommended for all persons at increased risk of infection <ul style="list-style-type: none"> • Men of who have sex with men • Injection drug users • Heterosexuals with other diagnosed STDs • Prisoners • Residents of homeless shelters • Individuals who exchange sex for drugs or money • Inner-city young adults who use drugs • HIV screening of pregnant women who fall into a high risk group • HIV screening of infants born to high-risk mothers is recommended if the mother’s antibody status is not known • HIV screening among low-risk pregnant women in low-prevalence areas

		<ul style="list-style-type: none"> • Confirmation of an initial HIV infection (using EIA testing) with either WB or IFA testing is strongly recommended to avoid false-positive diagnoses • Individuals at risk for specific STDs should be offered recommendations on screening for: <ul style="list-style-type: none"> • Syphilis • Gonorrhea • Hepatitis B • HIV • Chlamydia • Routine serologic screening for syphilis is recommended for: <ul style="list-style-type: none"> • All pregnant women • Persons at increased risk of infection • The Task Force strongly recommends screening for hepatitis B virus infection in pregnant women at their first prenatal visit • The Task Force recommends <i>against</i> routinely screening the general asymptomatic population for chronic hepatitis B infection • Routine screening for Gonorrhea is recommended for: <ul style="list-style-type: none"> • Asymptomatic women at high risk of infection • All high-risk women should be screened during pregnancy
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		<ul style="list-style-type: none"> • Screening for Gonorrhea among high-risk young men • Routine screening for Gonorrhea among the general adult population is NOT recommended • Ocular antibiotic prophylaxis of all newborn infants is recommended to prevention gonococcal ophthalmia neonatorum • The Task Force strongly recommends that clinicians routinely screen all sexually active women aged 25 years and younger and other asymptomatic women at increased risk for infection, for chlamydial infection • Routine screening of all asymptomatic pregnant women aged 25 years and younger and others at increased risk for infection for chlamydial infection • Routine screening of asymptomatic men for chlamydial infection
<p><i>Community Preventive Services</i></p>	<ul style="list-style-type: none"> • ** 	

* The Task Force has stated, “this recommendation is based on the proven efficacy of risk reduction, although the effectiveness of clinician counseling in the primary care setting is uncertain.”

** The review of evidence for population-based interventions for the prevention of HIV, STD and unintended pregnancy (all included under the Task Force’s heading of “Sexual Behavior”) is ongoing. .

NOTE: Bolded type represents recommendations for which there is sufficient evidence to create a standard; plain type represents recommendations for which although the evidence may be insufficient, these recommendations may be adopted as standards “on other grounds,” according to the Task Force. For example, there is insufficient evidence to recommend for or against universal screening among low-risk pregnant women in low-prevalence areas, but recommendations to counsel and offer screening to all pregnant women may be made on other grounds.

Section 3.7

THE DATABOOK

Released:
Summer 2005

A Research Report
Prepared for the
St. Louis Regional
Health Commission
by Inneval LLC

Community Health Infrastructure Assessment for St. Louis City and County

Focusing on
Maternal and Child Health

This section has been extracted from a larger report called the Community Health Infrastructure Assessment for St. Louis City and County. For information about the context of the findings, research methods, focus areas and overall conclusions, please refer to the larger report or contact the authors.



ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

INTRODUCTION

Background and Context

Organizations committed to maternal & child health address a broad range of health outcomes with many different types of services. Activities can begin during prenatal care and last for many years after birth as children are immunized and monitored for development. For the purposes of this assessment, research efforts prioritized activities that reduced risk for low birth weight and infant mortality. Other maternal & child health outcomes, such as immunization were reported by respondents.

Infant mortality is defined as the death of an infant before a first birthday and is related to a variety of factors, such as pre-term birth and low birth weight. Low birth weight is defined as weighing less than 2,500 grams or about 5.5 pounds and is one of the most important predictors of an infant's subsequent health and survival. In addition, studies show that utilization of early prenatal care is associated with healthy birth weights. Children born to women not receiving early prenatal care are at greater risk for low-birth weight, premature birth and infant mortality. Low birth weight can not only lead to physical and mental disability but also to substantial economic costs at individual and societal levels. Adverse outcomes due to low birth weight can require a lifetime of increased medical costs which in turn can impact the cost to insurance companies.

Infant mortality in Missouri is trending in the wrong direction. It rose by 15% between 2001 and 2002. Based on 2002 data, 8.5 per 1,000 live births are expected to die before age 1. African American infants are more than 2.5 times more likely to die before their first birthday than Whites. Infant mortality rates in St. Louis City and County are worse than the state, and for that matter, many second- and third-world countries.¹ With an infant mortality rate of 12.9 per 1,000 in St. Louis City, this population is comparable (+/- 2 points) to Brunei Darussalam (11), Dominica (11.2), Latvia (11.6), Jamaica (12.5), Serbia and Montenegro(13), Chile (13.5), Bulgaria (13.6), Qatar (13.6), Uruguay (13.8), Oman(14.7).² According to a health assessment published by the US Department of Health and Human Services Health Resources and Services Administration in 2000, infant mortality in St. Louis County at an overall rate of 7.0 per 1,000 births was deemed "unfavorable" as compared to peer counties.

¹One World, Nations Online <http://www.nationsonline.org>

²World Health Organization, 2002 data.

Infant mortality is a function low birth weight. In St. Louis City between 1998 and 2002 the average rate of low birth weight was 12.0 per 100 births compared to a state rate of 7.8. St. Louis County, while slightly higher than the state rate, was 30% lower than the County.³ Low birth weight rates by zip code are displayed in Map 1 (located at the end of this section).

Health disparity

As reported in the RHC's Building a Healthier St. Louis, health disparities are common among maternal & child health outcomes. The likelihood of "no first trimester prenatal care" for African Americans in St. Louis City and County is over four times greater than Whites (1999-2001 average). It follows that low birth weight rates for African Americans is more than two times the rate for Whites.

³2000 data, *Building a Healthier St. Louis*

SURVEY RESULTS

As part of a comprehensive examination of primary and secondary prevention services for ten focus areas in St. Louis City and County, the RHC identified maternal and child health activities by surveying schools, places of worship, hospitals, clinics, funders and community health organizations. Results of this research process are summarized herein.

Community health organizations

- Of the ten organizations that completed a *Focus Area Survey for Maternal and Child Health*, 13 distinct programs were reported. Slightly less than half of the programs actually provided maternal and child health services (e.g., prenatal care and immunizations). The remaining programs either provided information only or focused their efforts on either early childhood education or foster care. More than two-thirds of the programs cited a specific program model; however, none of the programs provided any theoretical or evidence basis. Some of the programs described included nationally recognized, named models, such as Parent as Teachers, Healthy Families of America, and Planned Parenthood's Peer-to-Peer Model. Nearly all of the programs indicated targeting specific populations for their services, with the most common criteria being age and geographic location.

Places of Worship

- By comparison to other focus areas, places of worship did not frequently provide or manage maternal & child health activities.

Schools

- Schools and school nurses partner with hospitals, health departments and community health agencies to provide immunizations and screenings.

Funders

- Maternal & child health was a top focus area for involvement by local funders.
- Four funders reported providing cumulative annual total of \$1.6 million for primary and/or secondary prevention in the area of maternal & child health.

Health centers

- Health centers seem to dedicate their efforts toward immunizations, EPSDT and well child exams.
- Written materials and paid media are used by health centers to increase awareness of maternal & child health issues and availability of associated clinical services.

Hospitals

- Five of the hospitals indicated that they provide childbirth classes; four reported providing parenting classes and immunization education; one reported involvement with EPSDT services.
- Others reported participating in variety of maternal and child health activities such as, media campaigns, help/advice line, immunizations, support groups, injury prevention education and prenatal health education.
- In general, it seems that hospitals are involved with maternal and child health prevention through obstetrical and emergency room/urgent care pediatric services.

⁴The Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) service is Medicaid's comprehensive and preventive child health program for individuals under the age of 21. EPSDT was defined by law as part of the Omnibus Budget Reconciliation Act of 1989 (OBRA 89) legislation and includes periodic screening, vision, dental, and hearing services.

OTHER CONSIDERATIONS

St. Louis Maternal, Child and Family Health Coalition

Established in 1998 with the March of Dimes as the lead agency, the St. Louis Maternal, Child and Family Health Coalition is a product of the St. Louis Children's Agenda planning activities. The coalition serves as "a vehicle for examining and addressing issues related to the effectiveness of maternal/child health services in the St. Louis area in a systematic and coordinated fashion." The coalition involves approximately 170 individuals representing over 80 agencies and consumer groups. The coalition has received funding from local foundations as well as federal programs. In 2004, it began implementation of the fetal infant mortality review to improve community resources and service systems for women, infants and children living in areas with high infant mortality rates, specifically zip codes 63113, 63120 and 63136.

Prior Research by the St. Louis Regional Health Commission

In 2002, the St. Louis Regional Health Commission received survey responses from three community health nursing agencies: Catholic Community Services, St. Louis County Department of Health, and Nurses for Newborns. Combined, these three organizations provided services to 6,034 clients in St. Louis City and County during a one year period spanning parts of 2001.⁵ Client visits occurred per agency-specific program guidelines, such as prenatal visits to teen mothers, after-birth home care, and other maternal child/health services. The reporting organizations employed the services of 35.5 FTE nurses, 7 FTE lay health workers, and 1 FTE social worker. Thus, the reported annual case load per staff FTE was approximately 140 clients.

⁵Depending on the fiscal or reporting calendars of the agencies.

COMMUNITY RESPONSE

At a forum organized by the RHC, community members provided responses to the survey data and commented on the status of primary and secondary prevention services for maternal and child health.

General comments and observations

- The data suggests that organizations are targeting services and measuring outcomes.
- There seems to be a lack of awareness of resources available within the community.
- While availability of services is good, they are fragmented.
- There is a lack of programs for nutrition and obesity.

There is a lack of access to prenatal care due to willingness and/or ability.

Recommendations and opportunities

- Increase federal funding.
- Increase the use of evidence based strategies in program design.
- Encourage and increase awareness on the use of multi-disciplinary care.
- Increase coordination and collaboration among organizations.

SUPPLY and DEMAND: IDENTIFIED GAPS in the COMMUNITY HEALTH INFRASTRUCTURE

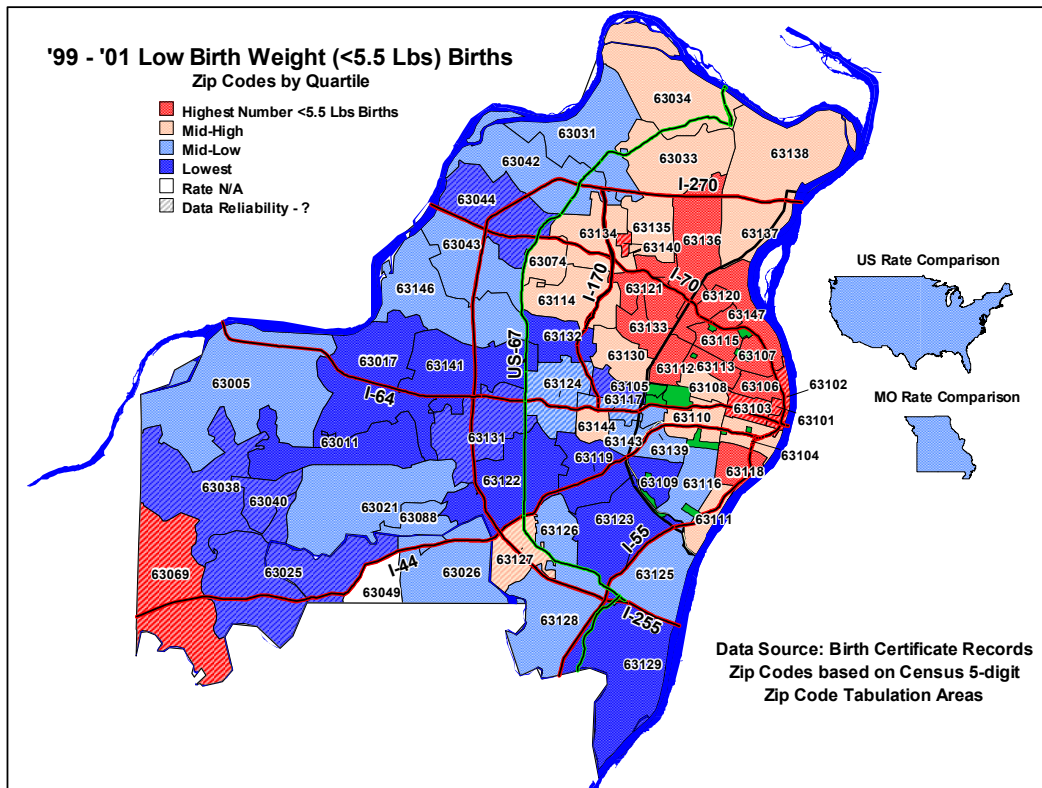
One task of the assessment project was to identify gross differences between supply and demand of prevention services. The way this difference was calculated varied by focus area, but in most cases the demand for primary prevention was estimated. To demonstrate the demand for prevention services associated with maternal and child health, frequency of live births is used. In St. Louis City and County, there were 17,491 live births of which 1,640 were low birth weight in 2003. Based on survey results, there are programs addressing the prenatal care needs. It is impossible to ascertain if supply is sufficient, but current infant mortality and morbidity statistics mentioned previously in this section would suggest otherwise.

OBSERVATIONS and CONCLUSIONS

- Unlike other focus areas, maternal and child health services are linked to most organization types surveyed.
- With a well established need, many community health organizations have made a proportional response with services, especially prenatal care.
- Maternal, child, and family health issues are addressed by many community health organizations and a funded coalition exists to unite them.
- Maternal and child health programs in the region benefit from state, federal, and private foundation funding.
- Approximately half of responding CHOs who were dedicated to maternal and child health services offered programs considered to be prevention oriented.
- Survey data suggests that prevention services are targeted to areas of highest need, including the high-need zip codes.
- Maternal and child health is a high priority for funders.
- Maternal and child health is too broad and diverse to be considered a single category of prevention services. Consideration should be made of separate sub-categories such as immunizations and prenatal.

MAPS

3.7 Map 1. '99 - '01 Low Birth Weight (< 5.5 lbs) Births



3.7 Appendix 1.

The following table has been abstracted from another section of this report that discusses evidence-based strategies for each of the ten focus areas. Below are recommended evidence-based strategies and best practices for maternal and child health.

*Recommended Prevention Activities for Maternal and Child Health * (“Pregnancy” and “Childhood Immunizations”)*

	Primary Prevention (awareness, education, counseling)	Secondary Prevention (screening and early detection)
<i>Clinical Preventive Services</i>	<ul style="list-style-type: none"> • Periodic counseling about effective contraceptive methods is recommended for all women and men at risk for unintended pregnancy. Counseling should be based on information from a careful sexual history and should take into account the individual preferences, abilities and risks of each patient • Sexually active patients should also receive information on measures to prevent STDs. • Daily multivitamins with folic acid to reduce the risk of neural tube defects are recommended for all women who are planning or capable of pregnancy • Structured breastfeeding education and behavioral counseling programs to promote breastfeeding ** 	<ul style="list-style-type: none"> • Specific screenings recommended for all women of childbearing age include: <ul style="list-style-type: none"> • Rubella (an equally acceptable alternative for non-pregnant women of childbearing age is to offer vaccination against Rubella) • Early and routine prenatal care throughout pregnancy • Specific screenings recommended for all pregnant women, as part of prenatal care, include: <ul style="list-style-type: none"> • Rubella • Maternal serum a-fetoprotein (MSAFP), when prenatal locations have adequate counseling and follow-up services • Strong recommendation for Asymptomatic bacteriuria screening at 12-16 weeks gestation • Rh (D) blood typing and antibody testing during first visit for pregnancy-related care and repeated testing for all unsensitized Rh(D)-negative women at 24-28 weeks • Routine screening for Syphilis and Hepatitis B at the first prenatal visit • Routine screening for Chlamydia among pregnant women ages 25 and under • Screening for all STDs (including HIV) among pregnant women in high risk groups

		<ul style="list-style-type: none"> • Screening for HIV among pregnant women at low risk or who reside in low prevalence areas • Newborns should be routinely screened for: <ul style="list-style-type: none"> • PKU before discharge from the nursery; infants tested before 24 hours of age should receive repeat screening by 2 weeks of age • Congenital hypothyroidism with thyroid function test in the first week of life • Routine well-baby care throughout infancy • Routine well-child care throughout childhood • Specific immunizations during childhood; All children without contraindications should receive the following vaccines in accordance with regular schedules: <ul style="list-style-type: none"> • Diphtheria-tetanus-pertussis (DTP) • Oral poliovirus (OPV) • Measles-mumps-rubella (MMR) • Conjugate Haemophilus influenza type b • Hepatitis B • Varicella
<p><i>Community Preventive Services</i></p>	<ul style="list-style-type: none"> • *** • Intervention strategies for increasing community demand for vaccinations: <ul style="list-style-type: none"> • Client reminder/recall systems • Multi-component interventions, plus education • Requirements for child care of school attendance • Community-wide education only • Clinic-based education only 	

<p>Community Preventive Services</p>	<ul style="list-style-type: none"> • Clinic-based education only • Client or family incentives • Client-held medical records • Intervention strategies for enhancing access to vaccination services: <ul style="list-style-type: none"> • Reducing out-of-pocket costs • Expanding access, plus multi-component intervention • Expanding access only • Programs in women, infants, & children (WIC) settings • Home visits • Programs in schools • Programs in child care centers • Provider-based interventions <ul style="list-style-type: none"> • Provider reminder/recall systems • Assessment and feedback for providers • Standing orders for children • Provider education only 	
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* The Task Force does not have a workgroup called “Maternal and Child Health.” Evidence and recommendations listed here are taken from two of the Task Force’s priority areas – “Pregnancy” and “Vaccine Preventable Diseases.”

** Effective programs generally involve at least one extended session, followed structured protocols and included practical, behavioral skills training and problem solving. Effects have been shown for up to 3 months; effects beyond that period are uncertain.

*** While the Task Force on Community Preventive Services has selected “improving pregnancy outcomes/ infant morality and health” as a priority area for development of systematic reviews of evidence and recommendations, this work is ongoing. No tentative date for completion of a draft for public review was available.

THE DATABOOK

Released:
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A Research Report
Prepared for the
St. Louis Regional
Health Commission
by Inneval LLC

Community Health Infrastructure Assessment for St. Louis City and County

Common Activities of
Community Health Organizations
Across All Focus Areas

This section has been extracted from a larger report called the Community Health Infrastructure Assessment for St. Louis City and County. For information about the context of the findings, research methods, focus areas and overall conclusions, please refer to the larger report or contact the authors.



ST. LOUIS
REGIONAL HEALTH COMMISSION
1113 Mississippi
St. Louis, MO 63104
Phone (314) 446-6454



INNEVAL LLC
Health Research & Consulting
3525 Watson Road, Suite R
St. Louis, MO 63139
Phone (314) 781-2781

For questions regarding activities common across all community health organization such as participation in health fairs, referral activities and factors related to referrals, advocacy, planning and coordination, and evaluation activities—regardless of the specific type of prevention programs being offered, the responses have been aggregated across all seven types of Focus Group Surveys (n=56) and are summarized below.

Health Fair Participation

Fifteen of 28 (54%) organizations providing this information indicated that they had participated in a health fair in 2003.

Client Referrals

Organizations were asked to indicate the extent to which they referred people to various types of organizations that may provide primary and/or secondary prevention services. The responses are summarized in the table below.

<i>Referral organization</i>	Not at all	Very little	Somewhat	Great extent	Not sure	No response
National associations	11	11	14	3	3	14
Community health organizations	4	5	19	15	1	12
City or county health departments	2	9	20	12	0	13
Community-based health centers or clinics	2	3	20	14	0	17
Private primary care physicians	8	8	12	10	3	15
Hospitals	11	14	12	3	0	16
Other	6	0	3	5	0	42

Organizations were also asked to indicate the extent to which they received referrals. Their responses are summarized below.

<i>Referring organizations</i>	Not at all	Very little	Somewhat	Great extent	Not sure	No response
National associations	18	14	2	3	3	16
Community health organizations	8	13	12	7	4	12
City or county health department	9	10	11	10	4	12
Community-based health centers or clinics	8	5	14	13	4	12
Private primary care physicians	14	8	11	6	4	13
Hospital	15	6	7	10	4	14
Other	1	0	1	5	0	49

Community health organizations providing primary and secondary prevention services in at least one of the ten focus areas identified the following as factors that facilitate client referrals (in descending order; the number of responses is provided in parentheses).

- Personal relationships (35)
- Effectiveness of system (34)
- Close proximity (21)
- Policies or requirements (8)
- Similar forms and paperwork (4)
- Other; included family's personal doctor, need information pertaining to birth defect standards, quality of service, responsiveness to client needs, need for coordination, funding, word of mouth
- No response (0)

Conversely, organizations were also asked to identify factors that potentially pose barriers for follow-up after referrals are made. These factors are listed below (again, the most frequently indicated responses are listed first; the number of responses—is provided in parentheses).

- Lack of method for tracking (24)
- Inadequate staff (21)
- Limited client information (15)
- Strained relationships with other organizations (2)
- Other; included too-stringent jail/prison rules, limited funding, refusal to return phone calls, non-compliant behavior of parents, parent lack of support, client unavailability, other agencies do not return calls, money
- No response (0)

Advocacy

When asked whether organizations were involved in advocacy activities intended to promote policy changes to achieve public health improvements, 20 of 44 (45%) responded in the affirmative. For those involved in advocacy, the FTE staff devoted to these activities ranged from 0 to 3, with a mean of 1.33 and a median of 1.5.

Planning and Coordination

Community health organizations participating in the assessment were also asked about their involvement in planning and coordination activities. Twenty-nine of 44 (66%) organizations that responded to this question indicated that the agency was represented on groups—such as coalitions, consortiums and councils—that plan and coordinate services. Fifteen of those 29 (52%) indicated that those groups in which they participate actually influence prevention activities within their individual organizations. Examples of planning and coordinating groups that make these influential decisions included:

- St. Louis Regional Asthma Consortium
- Healthy Heart
- St. Louis Regional Clean Air Partnership
- East West Gateway
- Air Quality Advisory Committee
- Ferguson-Florissant Health Advisory Council
- ARCHS Health Task Force
- Minority Health Advisory Committee
- St. Louis Regional Advisory Group
- Planning Council
- Ryan White CARE Act Title IV Network
- Maternal Child and Family Health Coalition
- Lead Prevention Coalition
- Folic Acid Coalition
- Adoption and Foster care Coalition
- Community Adoption Council
- Coalition on Addictions
- Regional Support Center Program
- State and Regional Alcohol and Drug Advisory Council

Evaluation

Finally, the community health organizations were asked to indicate both the kinds of evaluation activities they use and the ways they go about conducting these evaluation activities.

The kinds of activities used to evaluate programs—along with the frequency of the responses—are provided in the list below.

- Documentation of outcomes (42)
- Quality of services (39)
- Client satisfaction (38)
- Delivery of services (30)
- To identify areas of improvement (30)
- Staff performance (31)
- Service delivery approach (23)
- No response (0)

Methods used to conduct evaluation activities included the following.

- Internal evaluation by staff (38)
- Written feedback from clients (36)
- Standardized instruments (27)
- Databases (24)
- External evaluators (20)
- No response (0)