Chagas disease is endemic in Central and South America. It is caused by a parasite - *Trypanosoma cruzi*, and is transmitted to man by a blood sucking insect vector commonly named a “kissing bug” or triatomine bug. These bugs are found as far north as Illinois and Indiana, but bug infection is not endemic in the United States.

Symptoms of American Trypanosomiasis are often absent, but as many as 30% of chronically infected persons can develop a cardiomyopathy with arrhythmias and CHF, weight loss, and severe GI complications including megacolon or megaesophagus. Chronic Chagas disease is a major public health problem in endemic areas and can often result in death.

As many as 300,000 Americans are now estimated to be infected with the parasite. The photo above represents one sign of Chagas disease – Romaña’s sign – caused by a bug bite on the face and inoculation of the eye. An acute infection occurs after the triatomine bug bites and then defecates parasites on a person’s skin (the bug prefers the face, hence “kissing bug”). The T. cruzi can then enter the bloodstream if the person scratches the bite, rubs his eyes, or touches an area of broken skin. The initial infection can cause redness and swelling or a nodule about the bite (a “chagoma”), fever, lymphadenopathy, splenomegaly, weight loss and rarely an acute cardiomyopathy or meningoencephalitis. A person with AIDS or other immunosuppressed condition is especially vulnerable to the acute infection or reactivation with severe symptoms.

**cont. on page 2**
Lyme Disease Updates

Lyme disease is an illness caused by the spirochete bacterium *Borrelia burgdorferi.* In the Midwestern and Eastern U.S., this disease is transmitted to people and animals by the bite of an infected *Ixodes scapularis* tick. Prompt removal of ticks is an important step in preventing tick-borne disease. Studies of Lyme disease have shown that a tick infected with *Borrelia burgdorferi* must be attached to its host for 24-48 hours for the bacteria to be transmitted. Prompt removal is the best method to decrease the chance of infection. The disease typically progresses through flu-like symptoms, often with an unusual bull’s eye rash and then may advance to painful swelling of the large joints. Some people, when left untreated, may develop complications involving the heart, nervous system, and/or joints.

In Michigan, numerous studies to characterize Lyme disease have been conducted since the discovery of Black-Legged ticks and associated human disease in the western Upper Peninsula in the 1980’s. Physicians, veterinarians, local health departments, universities, and the Michigan departments of Community Health (MDCH), Natural Resources and Environment (DNR), and Agriculture (MDARD) have coordinated surveillance for tick populations, disease in wildlife, and human cases. The map of Lyme disease risk in Michigan (see page 3) summarizes these efforts, and shows the currently known range of infected ticks in the state as well as counties where people have contracted the disease locally. St. Joseph County is confirmed as an endemic county, while Branch County is considered a ‘potential risk’ county.

The most important factors in preventing Lyme disease are:
1. Knowing where ticks can be encountered
2. Preventing tick bites
3. Removing ticks promptly if they do bite
4. Seeking prompt medical care if illness occurs after exposure to ticks

Chagas Disease in USA, (cont.)

Most infected persons are immigrants from endemic areas, who may have previously lived in squallid housing such as the mud huts in which the triatomine bugs thrive. The disease is a blood borne infection and is not transmitted by sexual contact or casual person-to-person contact. It can be transmitted transplacentally to the fetus. In addition to a bug bite while traveling in endemic areas, it can be acquired through blood transfusions, organ transplants, and from mother to fetus. The Red Cross now routinely tests all blood for Chagas disease. The diagnosis can be made by seeing the motile parasite under the microscope, on blood smears similar to malarial thick and thin preps, or by culture isolation. In chronic carriers, serology is often needed. Allowing the patient to be bitten by a non-infected triatomine and then testing the bug’s feces has also been used as well as PCR methods.

Some immigrants donating blood or organs may discover they are unwittingly harboring a T. cruzi infection. All symptomatic persons should be treated with medication, as well as most carriers. Unfortunately, the anti-parasitical drugs are in short supply, and currently only one is being manufactured (in Brazil). The drugs of choice are benznidazole or nifurtimox (under an Investigational New Drug protocol from the CDC Drug Service). At present they can only be obtained through the CDC.

Improved housing and the use of insecticides in dwellings are essential public health measures in endemic areas. In the United States, Red Cross testing of blood donors, transplant donor testing, and prenatal testing should be the focus of infection control efforts. US physicians should be aware of this “emerging infectious disease” and add it to their diagnostic armamentarium.
Any Michigan physician can submit specimens to the MDCH laboratory. Serologic testing is also available but should be used to support other diagnostic information, such as history and clinical findings. Serologic testing can provide valuable supportive diagnostic information in patients with clinical findings that suggest later stage disseminated Lyme disease. Late stage diagnosis is still less reliable, however, and testing should be used selectively for patients from populations with a relatively high prevalence of Lyme disease or those who have specific clinical findings suggestive of Lyme disease.

For any serologic testing that is performed, a two-step standardized blood test should be utilized. It is recommended that the first step be a sensitive test, usually an ELISA. If the first step test is positive or equivocal, then it should be confirmed with the more specific Western Blot. (Enzyme immunoassays sometimes produce false-positive results because of cross-reactive antibodies, hence the recommendation for two-step testing.) A Western Blot is more specific because it utilizes protein bands specific to *Borrelia burgdorferi*. If specific antibodies to the individual protein bands are present, they will bind to the corresponding bands. For patients presenting with acute signs of Lyme disease where serologic testing is to be performed within 30 days of onset of clinical illness, it is recommended that IgM specific WB testing be performed. For patients needing testing greater than 30 days from the disease onset or with symptoms consistent with late stage Lyme disease, it is recommended that IgG specific WB testing be performed. All testing methods may not be standardized among all laboratories; therefore, a final diagnosis should not be made solely on serological results. Other factors that must be considered include the type of illness and the opportunity for exposure to Lyme-disease-carrying tick.

For more information about Lyme Disease, including prevention and surveillance information, visit our website at [www.bhsj.org](http://www.bhsj.org).

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**Signs and Symptoms:**
The symptoms of Lyme disease may include:

**Early Lyme disease** (3-30 days after exposure)
- Chills and fever
- Headaches
- Muscle and joint pain
- A characteristic skin rash, called erythema migrans (EM) present in 70-80% of cases

**Late Lyme disease** (weeks or months after exposure)
- Joint swelling, usually in one or more large joints, especially the knees
- Nervous system abnormalities can include nerve paralysis (facial muscles), and meningitis
- Rarely, irregularities of the heart rhythm may occur

**Diagnosis:**
For patients showing an EM lesion, a skin punch biopsy, taken at the edge of the EM lesion, may be performed for culture of *Borrelia burgdorferi*, the causative agent of Lyme disease. Such specimens must be taken **PRIOR** to antibiotic therapy. MDCH provides this test free of charge to Michigan residents.
New! Maternal Infant Health Program in Hillsdale

The Branch-Hillsdale-St. Joseph Community Health Agency has been accepted as a new provider of the Maternal Infant Health Program (MIHP) in Hillsdale County. MIHP is a program for all Michigan women with Medicaid health insurance who are pregnant and all infants with Medicaid. MIHP provides support to promote healthy pregnancies, good birth outcomes and healthy infants.

Throughout the state, MIHPs are administered in rural, urban and native communities through federally qualified health centers, hospital based clinics and private providers, as well as through local and district health departments. Services include:

- Maternal and infant health and psychosocial assessment completed by a nurse or social worker.
- Registered Nurse and Licensed Social Worker development of beneficiary plans.
- Coordination of MIHP services with the beneficiary’s physician and Medical Health Plan (who assist and supplement that care).
- Registered Nurse, Licensed Social Worker, Registered Dietician and Infant Mental Health home or office visits provided with interventions based on the beneficiary’s plan of care.
- Transportation services arranged if needed.
- Referrals are made to local community services (e.g., mental health, substance abuse, domestic violence, Early On, basic needs assistance) as needed.
- Provision of local childbirth education and/or parenting classes.

Dr. James Phillips, Medical Director for the tri-county health agency, states “We know that the percentage of births paid for by Medicaid has grown from 32% to 52% of all births during the past 10 years. We also know that approximately 30% of these mothers do not receive adequate prenatal care. By offering MIHP services, we hope to improve prenatal outcomes, as well as mitigate many of the risk factors associated with poor birth outcomes and developmental delays, such as poor nutrition, substance abuse, smoking and parenting issues.” Currently, the health department is the only local provider of the program in Hillsdale County. The agency will be accepting referrals and distributing an information packet to your office by mid-July. Stay tuned for more updates.
The Branch-Hillsdale-St. Joseph Community Agency has implemented several changes to make its WIC program more accessible and more meaningful to area women and their families.

In March, the health department partnered with Community Action Agency of South Central Michigan to offer a Friday satellite clinic in Sturgis at the old Holy Angels Catholic School. This school currently is home to the Sturgis Head Start program. According to Jo Ann Wilczynski, Prevention Services Coordinator at the Health Department, “Offering the services in this location is a natural since we share many of the same participants. Families are comfortable bringing their children to the school on a ‘Monday through Thursday’ basis when the local head start program is in operation. Offering a satellite WIC clinic in the same location on Fridays made good sense.” The caseload at the satellite site has quickly grown and now clinics are held every Friday to accommodate Sturgis moms who can’t travel to the Three River’s Office.

In May, the Health Department published the new WIC Income Guidelines. These income guidelines were modified to reflect adjustments that had been made by the federal government to the poverty threshold. As a result of these changes, the health department expects to see an increase in program participation. Jo Ann Wilczynski went on to state “The revised income levels will make more pregnant women and their young families eligible for our program. Currently, we have a caseload of 5,700. With this increase, we hope to enroll more families who may not have been eligible before but who would definitely benefit from the added nutritional support.” Families who meet program criteria and are at 185% of poverty are eligible for the program. This means that a family of four with an income up to $42,643 may qualify for the free supplemental food program.

Theresa Christner, Health Education/Health Promotion Director for the tri-county agency adds “According to the 2010 Census, we estimate that 36% of the population in the tri-county area have incomes that are below 185% of poverty. Using Census data, we further estimate that there are approximately 4,300 families who live in the jurisdiction and have at least one child under the age of five years that would income qualify for WIC. This represents approximately 28% of all families that have children under the age of 18 years. We are working hard to meet that need.”

In June, to further entice families to enroll in WIC, the Health Department began promoting it’s WIC Project Fresh program. Project FRESH is a program that makes fresh produce available to low income, nutritionally-at-risk women and children who participate in the Women, Infants and Children (WIC) program. Project FRESH is unique because food coupons can be used at local participating Farmers’ Markets to purchase fresh Michigan grown produce. Interested WIC participants can receive a $30 booklet of fifteen $2 coupons which can be used through October 31st to buy fresh, locally grown fruits and vegetables at authorized farmers’ markets and roadside stands. Participating farmers markets have a laminated yellow poster stating: "Project FRESH Coupons Accepted Here." In FY 2011, 112 Michigan farmers' markets, 130 roadside stands and 1,529 Michigan farmers were authorized to accept WIC Project FRESH Coupons.

And to help them enjoy the fresh flavors even more, the Branch-Hillsdale-St. Joseph Community Health Agency is teaming up with MSU Extension this summer to offer special classes at each of its county offices to help WIC participants learn how to buy, clean, store and cook with fresh produce. Classes will be offered through the summer as scheduled until all the coupons have been distributed to interested participants. To learn more about the Sturgis Satellite Clinic, WIC or Project Fresh, please contact your local health department county office. Or check us out on the web at www.bhsj.org.

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Michigan Health and Wellness 4X4 Plan

The Michigan Department of Community Health and Governor Rick Snyder have a vision for Michiganders: we should be “healthy, productive individuals, living in communities that support health and wellness, with ready access to affordable, person-centered, and community-based systems of care.” This vision requires the fulfillment of a goal that “every Michigander adopts health as a personal core value.” In order to accomplish this, the State has developed the Michigan Health and Wellness 4 x 4 Plan. Having identified obesity as the root of chronic illness (i.e., type 2 diabetes, health disease, arthritis, stroke and dementia) the 4 x 4 Plan recommends the practice of four healthy behaviors and keeping four health measures in control.

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<th>4 Health Measures</th>
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<tr>
<td>Get an annual physical exam</td>
<td>Cholesterol</td>
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<tr>
<td>Avoid all tobacco use</td>
<td>Blood Sugar/Glucose</td>
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In order to do this, the State will implement five strategies that target both individuals and organizations:
1. Develop multimedia public awareness campaign to reduce obesity and promote a social movement encouraging every Michigander to adopt health as a personal core value through promotion of the 4 x 4 Plan.
2. Deploy 46 community coalitions throughout Michigan to support implementation of the 4 x 4 Plan.
3. Engage partners throughout Michigan to help coalitions implement the 4 x 4 Plan, including: employers; trade and other professional organizations; education systems; and Departments of State Government.
4. Within the Michigan Department of Community Health create the infrastructure to support the 4 x 4 Plan implementation energizing the local coalitions and partners.
5. Seek funding to finance the plan for a projected first-year cost estimated at $18.25 million.

The Branch-Hillsdale-St. Joseph Community Health Agency fully supports this approach and is gearing up to help its residents reach the goal! Stay tuned for regular updates as we work to make our communities healthier places to live, work, learn and play.