



**CHFS Has Found a “Keeper”:
Announcing KY-EPHRS, A New Electronic
Record System for Public Health in the
Commonwealth**

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The Kentucky Department for Public Health (KDPH) understands the important role computer-based patient records will play in improving health-care quality, reducing cost and keeping the practicing health professional informed with up-to-date information. Paper records and isolated information systems can no longer support public and private health professionals who need real-time access to information for decision making at the point of care. Nor can they effectively support real-time surveillance and detection, a cornerstone of response to public health emergencies such as bioterrorism.

Responding to federal requirements and an apparent need, KDPH has engaged in a multi-year collaborative effort to furnish a Kentucky Electronic Public Health Record System (KY-EPHRS) to our local health partners. KY-EPHRS is a technical and architectural framework for developing various electronic public health related applications (“modules”) that are tied together through a common person demographic record (“base module”). Simply, this means that a person’s data is stored in KY-EPHRS one time only and all of their associated public health program information can be accessed from a common set of screens. For the practicing health professional this means less time searching for immunization records, health screening results, infectious disease history, etc. since KY-EPHRS is integrated and accessible using a web-browser. To ensure the strongest protection against unauthorized access to private health information, KY-EPHRS is also supported by a robust, role-based security model that addresses HIPAA

concerns and restricts access to sensitive patient health information based on the role of the user.

The structure of KY-EPHRS allows the flexibility to prioritize public health programs and functions that are included in the record, based on need or available funding. Currently the active modules of KY-EPHRS are the Smallpox Pre-event Vaccination Module (PVM) and the Disease Surveillance Module (DSM), both of which are critical components of a suite of public health preparedness tools that will be made available through the KDPH¹.

The Disease Surveillance Module (DSM) is the newest module of KY-EPHRS. This module collects information on reportable, communicable diseases in an effort to detect, prevent and control their spread. When a disease outbreak occurs, rapid access to information is necessary for rapid response times. The DSM is a National Electronic Disease Surveillance System (NEDSS) compliant application and has replaced the CDC’s National Electronic Telecommunications System for Surveillance (NETSS) program. Following a four-month pilot in the fall of 2004, a set of changes and improvements was developed. The DSM’s implementation began in July 2005 and will be completed soon.

While KY-EPHRS is a communication structure that is intended to support facilities in tracking the disease reporting status of their patients, there is no

(Continued on Page 2)

November Notes & Reports.....

- CHFS Has Found a “Keeper”: Announcing
KY-EPHRS, A New Electronic Record System
for Public Health in the Commonwealth.... 1
- Are Children At Risk for Lead Poisoning?.....3
- The Dangers of Raw Milk Consumption.....5

substitute for a prompt phone call to the health department with urgent cases. Before Kentucky had a “Keeper” on its hands, though, all reported diseases were submitted on a handwritten paper form (EPID 200), which was then mailed or faxed from a provider to a local health department (LHD). The health department would then investigate the individual disease event, record its findings, and forward them on to KDPH. Information would flow in one direction once it left the treating facility, and the case seemed to “disappear” into the system. Once the LHD or DPH received the case, personnel would make the decision to investigate and confirm the case and enter it into the NETSS program.

With the new KY-EPHRS system, data is entered exactly where and when the event occurs. It rapidly travels up the chain, but the facilities at the start of the process are no longer deprived of case data. At any point they should be able to log in and see when the LHD has taken ownership of the case or whether the case has since been forwarded on to DPH. Information can be viewed, updated or investigated the moment it is entered into the system. Data can also flow from a hospital to a LHD and back again. The system offers an internal secured messaging system, which can include attached test results. Ultimately, information collected in the modules can also be electronically forward to the CDC in weekly reports.

The concept of a central, electronic public health record in Kentucky is growing in acceptance. Plans are to continue the growth of KY-EPHRS to include other critical public health programs that have a need or interest in becoming part of this ambitious collaborative. Several modules that are in the planning or development stages for future inclusion in the KY-EPHRS include:

- A Statewide Immunization Registry² and vaccine inventory management system coming in 2006,
- A Childhood Lead Poisoning Prevention Program module to support health professionals in childhood lead surveillance and case management, and
- A Newborn Screening module to support health professional in managing an increasing volume of screening test, assessing newborn screening coverage and public health case management.

A help center has been established to support current and future stakeholders of the KY-EPHRS. Stakeholders requiring assistance with the record system and its modules or who would like to know more about timelines and schedules of module deployment can call 1-877-545-6175 or email **chfs.KY-EPHRS@ky.gov**. For more information please be sure to visit our Web site at <http://www.chfs.ky.gov/dph/ephrs>.

¹ For more information contact Brennan O’Banion, Kentucky Department for Public Health, (502) 564-3418.

² For more information contact Jeff Brock, Kentucky Department for Public Health, (502) 564-3418.

Acknowledgements:

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Are Children at Risk for Lead Poisoning?

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Background

Lead is a soft, plentiful, inexpensive, highly toxic heavy metal, that has been used for centuries in paint, water pipes, dishes, gasoline, and many other common products. In 1978, lead was banned from use in paint, gasoline and water pipes, but it is estimated that approximately 74% of homes built before 1980 contain some lead paint. Lead paint present in homes that is intact is not harmful, but it can become harmful when it begins to peel or chip, or when it forms a very fine dust around window sills and doors caused by friction from frequent opening and closing.

History: Health and Housing

In January 1971, President Nixon signed into law the Lead-Based Paint Poisoning Prevention Act. This Act, which was passed by Congress in response to pressure from concerned citizens, community groups and healthcare workers, was highly significant because it was the first time that both Congress and the President of the United States acknowledged that lead poisoning was a problem for children. The Act also brought the health and housing authorities together to deal with a problem that neither could handle alone.

Since that time, the overall reduction in childhood lead levels has been one of the great environmental health success stories in this country. However, even with all of this success, **lead poisoning is the number one preventable environmental health hazard** that children face today. According to the Centers for Disease Control and Prevention (CDC), approximately 1 in 22 U.S. children has elevated blood lead levels. In 2004, Kentucky had 27,023 children age 6 and under screened for lead poisoning and 730 of those children had lead levels of 10µg/dL (10 micrograms per deciliter) and greater (Figure 1, page 6). Readings of 10µg/dL of lead in a child's blood are considered to be of concern by the CDC. At the present time, the CDC does not consider a child to be lead poisoned until he or she has a blood lead level of 20µg/dL or above. How-

ever, children with blood lead levels of 10µg/dL and higher can experience damage to their central nervous system resulting in permanent learning disabilities, impaired growth, a decline in their IQ, and hearing loss.

Anyone can be affected by lead, but children 6 years of age and younger and unborn babies are most at risk. This is because young children are developing quickly, causing their bodies to absorb a high percentage of the lead they take in. Unborn babies are not protected because there is no barrier to lead in the placenta. The most common routes of exposure are through the mouth (chewing on painted surfaces or putting toys or hands in the mouth after they have been on a floor containing lead dust) and inhalation of lead dust (occurs most often during renovation of older homes). Most children who are poisoned by lead are exposed to low levels of lead over a long period of time. The long-term effects of lead in a child can be severe and include: learning disabilities; decreased growth; hyperactivity; impaired hearing; and brain damage. While low-level exposure is most common, exposure to high levels of lead can cause seizures, coma, and in some cases even death.

One cannot tell if a child has been poisoned by lead by simply looking at the child, because even children who appear healthy may have a high blood lead level. The only way to be sure is to have the child's blood tested. Children should be tested at age 1 and 2 and at any time under the age of 6 if they have been or have the potential to be exposed to lead. A blood test takes about 10 minutes and can be done using both finger stick and venous methods.

Sources of Exposure

Lead can be present in dust, paint, and soil in and around homes, as well as in drinking water and food. Homes built before 1978 are at highest risk for containing lead-based paint. Those involved in remodeling or renovation projects that might impact suspected lead paint should consult the Kentucky Childhood Lead Poisoning Prevention Program at (502) 564-2154 or the Kentucky Environmental Lead Program at (502) 564-4537 for advice

(Continued on Page 4)

and instructions on lead safe practices. Never allow children or pregnant women to remain in a home built before 1978 during renovations as this can potentially expose them to high levels of lead contaminated dust. Do not allow them to return to the home until the work is completed and a thorough cleanup is performed.

To reduce children's exposure to lead, have the child's home tested (especially if it has paint in poor condition and was built before 1978) and fix any hazards that may be present.

Persons with questions concerning lead poisoning or lead poisoning prevention in Kentucky are advised to contact their local health department or the Kentucky Childhood Poisoning Prevention Program at (502) 564-2154 or <http://chfs.ky.gov/dph/ach/clppp.htm>.

People that have jobs that might expose them to high levels of lead include:

- Working in a construction area
- On or around bridges or in a tunnel
- Working on a farm
- Working at a firing range
- Working in a battery factory
- Working in an area where they are working with scrap metal or recycling

Persons working in these areas can unknowingly bring lead home to their families on dirty work clothes and shoes. Any adult working in these areas should thoroughly wash their hands before leaving the job site. In addition, all work clothes should be removed before entering the house and washed separately from other household laundry.

Lead may be present in many materials without you knowing it because you cannot see, taste or smell lead.

Other sources of lead may include:

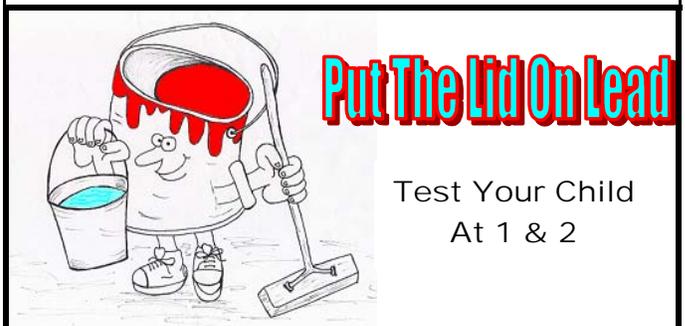
- Some vinyl mini-blinds made before 1996
- Fishing sinkers, batteries and bullets
- Home remedies including Azarcon & Greta (used for upset stomachs)

- Hobby materials (ceramics, stained glass, electronics)
- Leaded crystal
- Lead water pipes or lead soldered water pipes
- Some crayons and sidewalk chalk

Ways To Protect Children From Lead Poisoning

- Have children's blood tested for lead at age 1 and 2
- Wash the child's face and hands often during play and always before they eat
- Keep child's play area clean (wash toys, pacifiers and anything they put in their mouth)
- Clean the floors, walls, and window sills twice a week (or as often as possible) with soap and water
- Keep children from chewing on painted surfaces
- Have children play in grassy areas instead of on bare soil
- Feed the child a well balanced diet of foods that are high in calcium, iron, vitamin C and low in fat (these foods will reduce the amount of lead that is absorbed by the body)
- Clean or remove shoes before entering the home to avoid tracking lead in from the soil

(Continued on Page 6)



**World AIDS Day
December 1, 2005**

**For further
information, go to
www.worldaidsday.com**



The Dangers of Raw Milk Consumption

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Milk and other dairy products are an essential part of the human diet. Drinking raw, unpasteurized milk, however, can have negative health consequences. Since its adoption in the early 1900's, pasteurization has been credited with reducing illness and death caused by unpasteurized, contaminated milk. Today, some people are consuming raw milk because they believe it is tastier and healthier than pasteurized milk. However, every year there are cases of food borne illnesses related to the consumption of raw milk. According to the Centers for Disease Control and Prevention (CDC), more than 300 people in the U.S. became sick from drinking raw milk or eating cheese made from raw milk in 2001, and nearly 200 became ill from these products in 2002. Fortunately, the pasteurization process greatly reduces the risk so that everyone can safely benefit from milk nutrients.

Raw Milk Perceptions

Some raw milk consumers perceive that unpasteurized milk is healthier because pasteurization destroys enzymes and nutrients needed to absorb calcium. Another perception is that raw milk consumption aids in the prevention of arthritis, allergies, and other diseases. Additionally, some raw milk consumers prefer the milk's rich, creamy taste. In fact, however, the taste is present not because of lack of pasteurization, but because of separation of the cream rising to the top of the milk tank. Homogenization is the process generally performed during pasteurization that breaks down fat globules into equal size particles, preventing any cream from rising to the top of milk.

Pasteurization Process

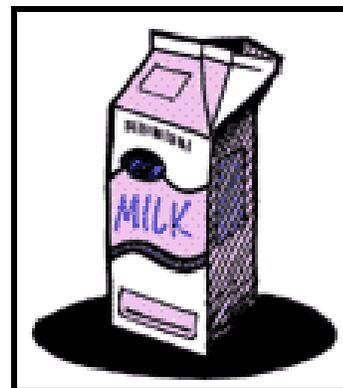
During the pasteurization process, milk is heated to a certain temperature for a controlled amount of time. This allows for the destruction of certain harmful organisms that may affect everyone, but are of particular concern for the young, the elderly, and people who experience trouble with their immune systems. For example, in pregnant women, *Listeria monocytogenes*-caused illness can result in

miscarriage, fetal death or illness-related death of a newborn infant. In addition to destroying disease causing bacteria, pasteurization inhibits organisms that cause premature spoilage.

Sources of Raw Milk Contamination

There are many different ways that raw milk produced by animals may become contaminated. Animals routinely shed bacteria in their intestines that will not make them sick, but they may cause illness in people who consume their milk or eat products made from the contaminated source. Animals may also gain exposure to harmful organisms from poor or non-existent housing areas. When milk-producing animals lie down with their udders touching an unclean surface, the chance of environmental contamination can be significantly increased. Bacteria that may lead to contamination of raw milk include: brucella, campylobacter, cryptosporidium, escherichia, listeria, mycobacterium, salmonella, staphylococcus, and yersinia. Without a process such as pasteurization present to destroy these potentially disease causing bacteria, many people might become ill and begin experiencing some, if not all of the following symptoms: bloody diarrhea, kidney failure, vomiting, severe headaches, and high fever. Healthy people may recover from food borne illness within a short period of time, but others could experience chronic, severe or life-threatening symptoms.

Because contaminated raw milk can be a source for harmful bacteria and pathogens, many U.S. states and the Food and Drug Administration (FDA) have regulations in place to ensure a safe milk supply for public consumption.





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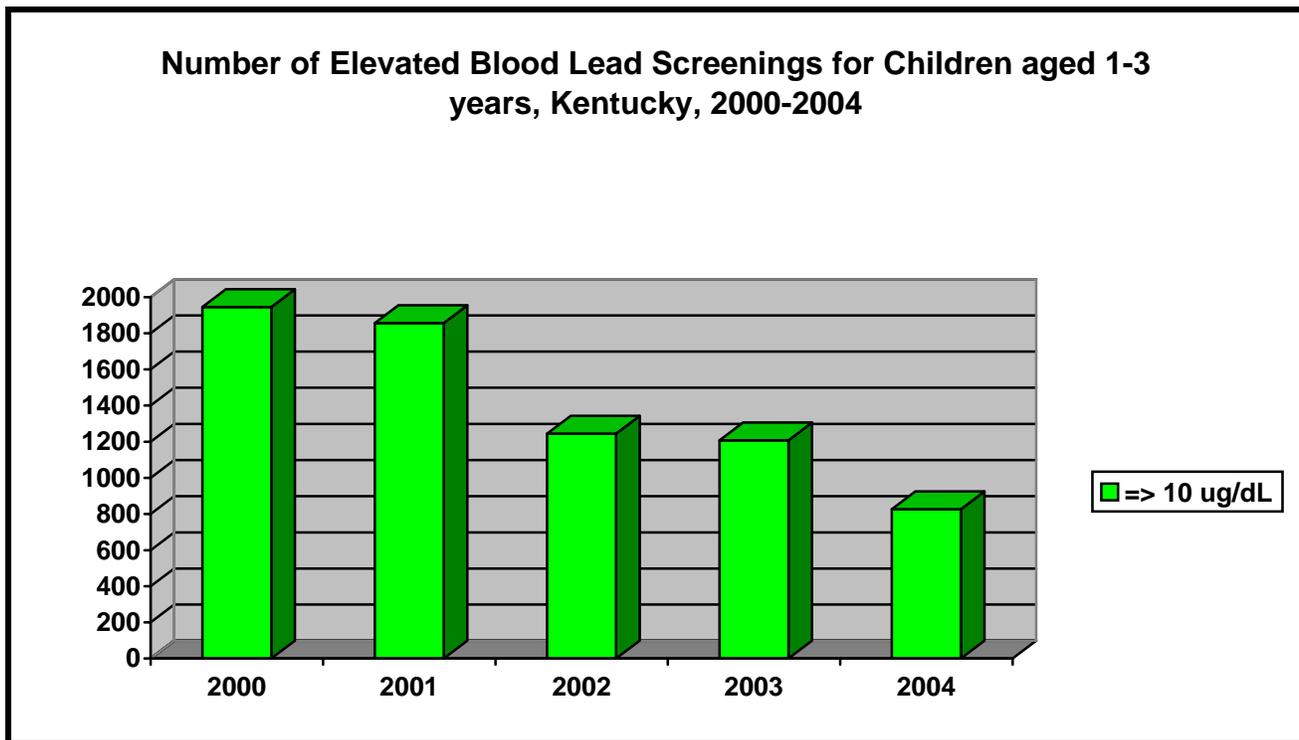
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(Continued from Page 4)

FIGURE 1. Number of Elevated Lead Screenings for Children aged 1-3 years, Kentucky, 2000-2004



(Note: Screening data includes duplicate clients, since clients may be screened more than once)