2-14-2008

Healing Kentucky

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HEALING KENTUCKY

(a "Kentucky Live" presentation,
sponsored by Barnes & Noble and WKU, Feb. 14, 2008)

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Did you read *Dick and Jane* in the first grade?

Run Dick run.
Run Jane.
See Dick and Jane run.

Unfortunately, many Kentuckians did not have access to stories about this fun-loving twosome, didn't learn to read, and when they tried to learn as adults, became bored and discouraged by reading books written for children. Consequently, a few years ago the Kentucky Humanities Council instituted an on-going series written on topics of interest to adults who read at the grade school level. Called New Books for New Readers, the series has been a great success, not only among adults learning to read, but also among junior and senior high school remedial classes and in English as a second language programs. The series, composed of fourteen titles to date, addresses varied topics including Ghosts, History Mysteries, Kentucky Women, Archaeology, the Lewis and Clark Expedition and the US Constitution.

Healing Kentucky, the most recent addition to the series, is an overview of the history of health care in the commonwealth. When the Humanities Council asked me to write the booklet, I thought it would be a snap. I talked to my "family doctors"—my husband, daughter and son-in-law, all of whom are practicing physicians—and asked what should be my underlying message. All agreed that I should stress prevention. My instructions from the humanities council indicated that the booklet should cover two

centuries of medical care in about 80 typed pages; friends who teach in the primary grades and in remedial reading programs suggested that I use no words bigger than two syllables. Knowing that both medicine and Kentucky are three syllable words and that such basic terms as inoculation, respiration, diarrhea, pollution, quarantine, etc. likewise contain three or more, I realized this might not be an easy project. It turned out to be the hardest writing I've ever done—but also the most challenging!

Have you ever thought about the everyday lives of our ancestors? If so, you may question how any of them lived long enough to produce and raise the next generation. Statistics are not available, but from reading letters and diaries of the era, one becomes very conscious of the abundance of miscarriages, stillbirths, and infant deaths. Pregnancy was also dangerous to the mother; until mid-late 19th century, childbirth was the number one killer of women, due to eclampsia, hemorrhaging, childbed fever, and other pre and post-partum conditions.

Children who survived birth faced a multitude of dangers. How did a babe receive nourishment if its mother died or had an insufficient milk supply? Unfortunately, our ancestors had no Similac, no Infamil, no Gerbers baby foods. One cannot help but wonder how many infants starved or were so weakened by malnutrition that they succumbed to minor illnesses.

And what about childhood diseases? The next time you visit Louisville's Cave Hill Cemetery, go through the "children's" section near the duck pond and look at the acres of headstones indicating that little darlings "died of tetnus," "died of typhoid, "died of diphtheria," or just "died." One of the most heartbreaking statements I've ever seen comes from a Bowling Green woman's 1850s letter in which she commented that she,

like many of her friends , was afraid to let herself love her little baby, least it die and break her heart!

What about the drinking water? It undoubtedly caused more deaths than all other maladies combined. From the beginning of time, humanity obtained water for drinking, cooking and bathing (if and when they bathed!) from shallow wells that frequently received washings containing animal and human wastes. [I hate to be indelicate but . . . I read recently that in an eight-hour day, 1000 horses deposited 500 gallons of urine and more than a ton of solid waste in city streets! Imagine the aroma and pollution from this daily contribution]. Consequently, typhoid, dysentery, the "summer complaint" and a host of other enteric maladies claimed Kentuckians of all ages. In the 1850s, as a convenience rather than a matter of health, Louisville began to pump water from the Ohio River to homes and businesses in the oldest section of the town; Bowling Green began to do likewise shortly after the Civil War, and the effort undoubtedly improved the health of some. In the late 19th century, builders of home in Bowling Green on upper Chestnut, State and College streets bragged of their "modern" systems that drained household slops into the town's "natural sewers"—the underground caves. Unfortunately, no one realized that through these caves also ran the streams that fed the wells in the town and county. The WPA built the built the first sewers in Bowling Green and many other urban areas across the state, and although the systems have since been extended, portions of Warren County and other rural areas still depend on wells, cisterns and septic tanks.

If you survived birth and the water, the air could be fatal. Most 19th and early 20th century homemakers cooked and heated their homes with coal and wood. Imagine the

soot and smoke that filled the air (and their lungs). Imagine the grime that clung to their furnishings. Think about the danger of fire. Women often became victims of the fireplaces, for their long skirts easily fluttered too close to the flames! And what about flies and other bugs that hatched in manure, filled the air, flew through unscreened windows, sat on food, and transmitted disease. I could go on and on—but I'm sure you are nauseated sufficiently to be aware that early Kentucky was an unhealthy place. The story of *Healing Kentucky* is a brief look at how the quality of life improved and the average life expectancy increased from about 35-40 in the mid 19th century to more than 70 years by the end of the 20th century.

Page limitations for *Healing Kentucky* did not permit a discussion of every disease and every doctor of note. So, for the booklet, I chose stories that adults might enjoy, would encourage prevention, and could be explained and discussed in reasonably simple language. For today's program, I've selected ones I hope you will find interesting and thought provoking, and will make you want to learn more about the fight to create a healthier Kentucky.

Do you know the story of story of Ephraim McDowell of Danville—the "father of abdominal surgery?" In 1809, using his kitchen as an operating room and employing a young nephew as his only assistant, McDowell removed a 20 pound tumor from the abdomen of 47 year-old Jane Todd Crawford. Lacking any sort of anesthesia, Jane simply lay there, gritted her teeth and prayed throughout the ordeal! (I hope she fainted with the first stroke of the knife!!!). She survived! Three weeks after her history-making surgery, the hardy Mrs. Crawford rode her horse 60 miles back to her home—and lived another 33 years! Today, a statue of Ephraim McDowell stands in the US Capitol Bldg.

Frankly, I think the one to stand under the great dome in Washington, D.C. ought to be the unbelievably brave and exceedingly lucky Mrs. Crawford!

Abdominal surgery, indeed most surgery, was rarely performed during the early 19th century. Chloroform and other anesthetics were unknown prior to 1840; before George Rogers Clark had his leg amputated in 1809, he hired a fife and drum corps to play outside his window and drown out his screams! Nor did they have antiseptics—or even understand the value of soap and water and basic cleanliness! Civil war doctors probed battle wounds with unwashed fingers, wiped off their instruments on blood-splattered aprons worn to protect their clothing and occasionally rinsed their sticky instruments with cold well water. Amputation was the answer for most wounds of the extremities, for a "clean" cut was a little less likely to become infected than a wound filled with foreign matter. The memoirs of many Civil War soldiers tell of seeing mounds of arms and legs piled outside of makeshift battlefield hospitals. In addition to wounds, thousands of Civil War soldiers died of measles, typhoid, smallpox, TB and other communicable diseases. Civil War hospitals lacked professional staffs and only Louisville and Lexington could even boast of real hospitals. Consequently, stables, shops and breezy tents became makeshift wards for the sick and wounded. It's a wonder anyone survived.

The American Civil War still holds the record for more deaths than the total casualties of all other wars in which Americans have fought. Despite the horrors, however, physicians learned a great deal about treating wounds. Years later, when asked about his war-time experiences as a physician, University of Louisville Professor of Surgery David Yandell remarked that the war had been a "great, though terrible school"

for learning surgical techniques. The same can be said about medical advances that came out of World War II and subsequent conflicts—but what a horrible price to pay for progress!

Transportation improvements made travel easier and faster, but also spread communicable diseases more rapidly. For example, prior to the 1820s, Asiatic cholera was unknown to the western world, for it killed its Asian victims faster than they could flee and spread the disease. However, in the late 1820s the disease appeared in Western Europe. In the spring of 1832 Asiatic cholera arrived in American ports and soon began its deadly decent, by steamboat, down the Ohio River. It struck Louisville that fall and appeared in Maysville and Lexington the following spring. Those fleeing from this insidious malady carried the disease inland and in the next two summers Asiatic cholera decimated both rural and urban Kentucky. No one knew what caused the disease. Some believed the culprit was a poison carried in the night air, others blamed ingesting raw fruits and vegetables, or alcoholic drink, or sin—or even too much sex! Every doctor had a theory and a favorite remedy (even today there is no "cure"), but nothing seemed to explain cholera's rapid spread or why it bypassed some neighborhoods or struck everyone in a community at about the same time. In some towns cholera victims died faster than coffins could be made, and mounds of bodies wrapped in bedding awaited burial at the cemetery gate. Of the towns in south central Kentucky, Russellville perhaps suffered more than any other. In the summer of 1834 at least one-fourth of that town's population died; those who fled undoubtedly carried the malady to other areas.

Cholera disappeared from the US in the fall of 1835, returned again in the spring of 1848 and ravaged the US—and Kentucky—every summer between1849-54. During

and immediately after each cholera epidemic, medical journals carried pages of reports, suppositions, and advice from physicians. A few blamed filth and urged that towns be cleaned. A Louisville newspaper suggested that part of that city "held as many bad smells as the air could endure" and urged that the streets and gutters be cleaned. No one, however, associated the water supply with the disease.

Cholera visited Kentucky again in 1873, and although Louisville and Lexington escaped, the killer devastated the residents of small towns and areas that still utilized wells. Following the 1873 visitation, the US army conducted a study of the epidemic and concluded that the disease was spread by contaminated drinking water; in 1883 a German bacteriologist identified the bacillus that causes Asiatic Cholera. Knowledge about its cause and transmission from one person to another provided an understanding about prevention. The disease has not appeared in the US in the 20th century, but one can periodically read of its tragic effect in Asia and Africa.

So—when do things begin to get better? When does medical science begin to "heal" Kentucky? The spark that began the change came with the devastating yellow fever epidemic of 1878. Sometimes referred to as ""yellow Jack" or the "saffron scourge," yellow fever had been a frequent visitor to the West Indies in the 19th century and every few years it hit US coastal cities, especially along the Gulf coast and the lower Mississippi. Early Antebellum Kentucky may also have suffered from cases of yellow fever but they were not so diagnosed. (Yellow fever is spread from person to person by the bite of a vector host, the *Aedes aegypti* mosquito that is indigenous to much of the United States). However, in the summer of 1878 yellow fever arrived in New Orleans earlier than usual, worked its way up the river and in mid-summer devastated Memphis.

Those who could do so fled by boat and train to Paducah, Louisville, Bowling Green and other transportation centers— and carried the malady with them.

In early September, 1878 Louisville's newspapers reported that a couple of children at Hickman, who sold apples to passengers on Mississippi River steamboats, had died of yellow fever. A few days later the paper reported other cases. Most physicians denied that yellow fever could hit as far north as Kentucky. Dr. Luke Blackburn of Louisville disagreed. A veteran of numerous fever epidemics in New Orleans, Natchez and Memphis, Blackburn volunteered his services and went to Hickman to aid its residents. In addition to caring for the sick, he created temporary hospitals and organized and trained groups of area women to serve as nurses. In a two month period two hundred and sixty-two indigenous cases of yellow fever, with a 50% mortality rate, appeared in the Hickman-Fulton area. The disease also struck Bowling Green and Louisville, both transportation centers. Bowling Green, a town of about 2500, suffered 50 indigenous cases and 26 deaths; luckily, the first frost ended yellow fever's "visit" before it devastated the town.

In 1878, no one knew the cause of the deadly scourge—nor would they for another 20 years. Nevertheless, Dr. Blackburn (who believed the spread of the disease had something to do with poisons in the night air!) was the hero of the day. A few weeks after the epidemic ended, the people of Hickman and Fulton held a dinner and grand ball in his honor, and in the summer of 1879 the state's democratic party nominated the "Hero of Hickman" as their candidate for governor. He was easily elected. As governor, Blackburn began a crusade to clean the overcrowded and filthy state prison in Frankfort (which was across the street from the governor's mansion) and build a new facility at

Eddyville, reforms that rendered him one of the commonwealth's most unpopular executives! However, his deed that had the most important and long lasting effect was to appoint Dr. Joseph McCormack, a "hero" of Bowling Green's yellow fever epidemic, to the infant State Board of Health.

Created in 1875, the state board of health was originally an advisory group, with neither the power nor the budget to be effective. McCormack changed that. He operated the board (rent free) from his home at 10th and State St. Overseeing the health of the commonwealth became a family affair, for McCormack's wife served as his secretary-typist, the family's cook addressed and sealed the board's outgoing mail, and the handyman-gardener made daily visits to the post office to pick up & deliver the board's mounds of correspondence.

For nearly forty years McCormack directed the board's activities and pushed the state legislature to provide it with sufficient power and funds to be effective. He believed there was a correlation between dirt and disease and insisted that prevention of disease was easier and cheaper that curing it. Thus, he began an intense campaign to clean private and public property and to educate not only the state's doctors but also the state's politicians and the general public about the need for cleanliness. Believing that polluted water caused disease, he encouraged towns to pipe water from nearby rivers to area homes. To prevent human waste from fouling rivers and streams, he urged the construction of "sanitary privies." Drawings of and construction details for the recommended outhouse appeared in board of health reports and published fliers and posters as well as newspapers.

Knowing that many of Kentucky's doctors had little or no formal education or medical training, McCormack began a campaign for licensing. Earlier attempts to require practitioners to hold a medical degree seemed only to encourage the rise of diploma mills. Thus, McCormack convinced the legislature to require doctors to register with their county courts, thus eliminating the slick-tongued , traveling medicine men that plagued the state, and then sought a law that vested the board of health with licensing power. As McCormack reviewed every license application, he became acquainted with the credentials (and lack thereof) of every doctor in the state. Working with the state and county medical societies as well as the legislature, the board's licensing requirements gradually increased, from requiring only an apprenticeship with a practicing doctor to encouraging, then requiring for licensure, a degree from an accredited medical school. At about the same time, Kentuckian Abraham Flexner surveyed the nation's medical schools and reported that most of them were greatly inferior to their European counterparts. His published findings resulted in increased entrance requirements and improved and expanded curriculum. Educational and licensing requirements also eventually extended to nurses, pharmacists, dentists and other health-care professionals.

Realizing that statistics provided important information regarding health, McCormack created in 1911 the state's Bureau of Vital Statistics, to keep birth and death records. He also asked the legislature for money to establish a research lab and hired Dr. Lillian South of Bowling Green to operate it. During her near 40 years with the board, South traveled widely across the state, studying area problems related to sanitation, communicable diseases and potential epidemic outbreaks. (During one survey she found three Kentuckians suffering with leprosy!) She prepared bulletins and booklets and

spoke to crowds of Kentuckians about how to improve individual and area health. As director of the board of health's laboratory, she tested barrels of blood samples for venereal disease and tons of human waste for hookworm. She also trained several thousand laboratory assistants. Under her guidance, the laboratory created more than 12 million doses of vaccines to protect Kentuckians against a host of maladies.

McCormack had a plethora of other ideas on how to improve the health of his state and its people. Utilizing the talents of several friends, he and South began intense and effective educational programs. They wrote booklets for school children and circulated literature for the general public that addressed basic health rules, the cause and spread of disease, and of the need for prevention. With the help of a couple of attorneys, McCormack drafted laws that mandated blood tests for marriage licenses and smallpox vaccinations for school children. He drew up legislation that required restaurants and school cafeterias to screen their windows, that food handlers be tested for TB and other infectious maladies, that victims of certain diseases be quarantined—the list goes on and on. An effective and persuasive speaker, McCormack attended sessions of the legislature to encourage the passage of his health laws and even served one term (1912) in the state legislature to garner votes for his reforms. Joseph McCormack wrote—and the legislature approved—the laws that became the basis for Kentucky's health code.

In the early fall of 1918, soldiers returning from Europe introduced a new strain of flu into the US, and military bases, including Louisville's Camp Zachary Taylor, were hard hit. Spanish Flu rapidly traveled to every corner of the state and, like epidemics of old, communities suffered from lack of services and insufficient numbers to care for the ill and bury the dead. To slow the malady's spread, McCormack ordered that all of the

state's schools close and strongly advised that all theatres, churches, businesses and other places where people congregated do likewise. For a period of about six weeks, Kentucky virtually shut down, on the orders of the head of the State Board of Health. Nevertheless, six times as many Kentuckians (and Americans) died during the Spanish Flu epidemic as died on the battlefields of France during World War I.

In addition to his work in the commonwealth, McCormack served as an active spokesman for the American Medical Association and addressed groups of doctors and lawmakers in nearly every state in the Union, urging that they adopt laws similar to those he pushed through Kentucky's legislature. In 1913 a speaker at the American Medical Association saluted Joseph McCormack as one who "has done more to lengthen human life and prevent sickness than did the immortal Ephraim McDowell. . . and I am certain the next generation of Kentucky doctors will erect a marble shaft commemorating the work of this great Kentuckian." [Unfortunately, no shaft, no statue, not even a brass plaque materialized]. On his retirement in 1920 Joseph's son, Arthur, became the head of the Kentucky State Board of Health and continued his father's crusade for a safer, healthier Kentucky.

In the early days of 1937 melting snow and a continuous rainfall forced the Ohio River out of its banks. By the end of the January, Maysville, Louisville, Paducah and other towns along the river (and some of its tributaries) were inundated. As the water rose to unprecedented height, homes washed away, marooning residents on rooftops. Water-filled shops closed, leaving customers without food and other necessities. City utilities shut down, and residents were without drinking water, heat and other necessities. Sewers overflowed.

As the water began to rise, Dr. Arthur McCormack organized relief groups, set up emergency quarters and hospital facilities in dry schools, churches and other public buildings, and sent appeals for help to inland towns. He even arranged to have the state's breweries and distilleries provide pure bottled water for residents of the flooded towns. Lillian South and her laboratory staff prepared vaccines to prevent typhoid and other sanitation diseases and they inoculated hundreds of thousands of Kentuckians living along the Ohio and upper Mississippi rivers. McCormack, South and the state Board of Health prevented what could have been the 20th century's greatest health disaster!

Not all crusades to heal Kentucky have been led by physicians. Among the early 20th century voices demanding reform was that of a Lexington schoolteacher, Linda Neville. While visiting a friend in Knott County in the summer of 1907, Neville noticed people being led around like a horse on a tether; on inquiring, she learned that they were blind—that they had a condition known in the mountains as "red sore eyes." On further investigation she discovered that they were victims of trachoma, a highly contagious infection that is spread by rubbing the eyes with unwashed hands or an unclean towel. The condition caused the development of a rough spot on the underside of the eyelid. If not treated, the scratched cornea became inflamed, infected, and eventually destroyed the individual's sight. The malady was easily treated, Neville learned, yet the mountains had few residents who could afford treatment and even fewer physicians to perform the service.

Thus began Neville's life-long crusade; she "declared war" on trachoma. She talked to her friends-- and their friends—and to church groups, bridge clubs, to anyone who would listen, asking them to aid and financially support her crusade to prevent

trachoma and other sight-destroying diseases. She organized free trachoma clinics in mountain schools, courthouses and churches and talked numerous Louisville and Lexington physicians into volunteering their professional services for them. She nailed notices to fence posts and sent letters home with school children urging that the entire family attend the free clinics. For mountain folk who needed surgery, she convinced doctors and hospitals to provide free care, even talked the railroads into providing free transportation from the mountains to the city. And for those who could not travel alone, Neville journeyed eastward and accompanied them out of the mountains and to a hospital in the Bluegrass area. Her own home became a convalescent center and, before her "guests" returned to the mountains, she took children to the park and to the circus when it was in town and introduced adults to department stores, streetcar rides and other big city amenities.

During her half-century long crusade, Linda Neville saved the sight of thousands of Kentuckians. This "Angel of the Blind," as the mountain folk dubbed her, visited the governor, talked to lawmakers, and convinced the state legislature to pass a variety of laws to protect the vision of babies and young children and to aid sight-impaired Kentuckians. She also adopted and raised two children—David and Joanna--both blind from birth.

Medical science has come a long way in the last half century. Some say that medicine has made more progress since WWII than from the beginning of time to 1945. Just think of the amazing changes we've witnessed in a little over a half-century. Today, almost anything seems possible (except, of course, we still cannot cure the common cold!)

Since many of you are of the post 1950s generations, let me wind up my presentation with what I think are three of the last half century's most obvious and most important advances in "healing" –the eradication of polio, the advent of plastic surgery, and the creation of the artificial heart.

If you grew up in the pre 1960s decades, you can recall the hysteria created with the very mention of the word, "polio." No one knew the cause of this often crippling, sometimes fatal malady; no one was sure of how it spread; no one had a cure.
For those who contracted polio, Kentucky's hospitals offered the latest techniques and best care then known. Unfortunately this "best care" was not available to all. In Bowling Green, for example, the local hospital did not allow black doctors on its staff and did not accept black patients. Dr. Z. K. Jones, probably Warren County's best known and most revered African American of recent times, treated numerous black children who contracted polio; those who required hospital care, he transported in his car to Louisville General Hospital, where one ward was designated for the care of black Kentuckians.

The March of Dime helped bring an end to polio and the ensuing panic. The crusade began in the 1930s and its earliest supporters included President Franklin D. Roosevelt, actor Eddie Cantor, and a host of other Hollywood celebrities. By mid century the March of Dimes had raised hundreds of millions of dollars and created the largest research and rehabilitation network in the history of medicine. And it paid off! In the late 1950s Jonas Salk introduced an inoculation and a couple of years later Albert Sabin announced an oral serum, both of which prevented polio.

And just think about all the other shots in the arm (or elsewhere) that prevent a host of killing and crippling diseases--the DPT shot given to babies to prevent diphtheria,

whooping cough and tetnus, all major killers of children a few generations ago; the recently developed inoculations that prevent measles, mumps, various kinds of flu; and very recently, an inoculation for the prevention of cervical cancer. And perhaps the most welcomed of all--the vaccine responsible for the total eradication of one of the world's most insidious maladies—smallpox.

Think, too, about the advances in surgery --the amazing techniques developed in reconstructive surgery. Working with the "Children of Americas" organization, Bowling Green's Dr. Tim Hulsey recently repaired the face of Hilaria, a ten-year-old child from Guatemala, born with a disfiguring cleft lip and cleft pallet. Because her country had neither the facilities nor the technology, the child was brought to Bowling Green to "get her face fixed." Imagine her fright—(I bet she was even more frightened than Jane Todd Crawford had been 200 years earlier!). During her two year stay in Bowling Green, Hilaria lived with a WKU family, Paula and Joe Trafton and their children, and underwent numerous surgeries and several dental procedures. She also attended school, played on the soccer team and became accustomed to gadgets unknown in her part of the world (everything from a vacuum sweeper and hairdryer to a computer). Imagine the unbelievable tales she related to family and friends at home about her experience in Kentucky.

The last chapter of *Healing Kentucky* concerns what sounds more like science fiction than reality. Perhaps a fitting tale for this Valentine's Day, the story involved an artificial heart that used a bit of plastic and metal to pump the equivalent of 2000 gallons of blood through an adult's body every day. The first surgeons to transplant the heart were two Louisville doctors—Laman Gray, Jr. and Robert Dowling—and their patient

was Robert Tools from Franklin, Ky. Tools had been given about 5 weeks to live because of his failing heart; nevertheless, imagine what courage it must have taken to agree to be the recipient of an artificial organ that had previously only been implanted in a pig. When asked about his willingness to submit to the surgery, Tools answered that every day he lived was an exciting adventure. "It is a thrill to wake up every morning, to see the sunlight, and to see my family and my friends," he told a newspaper reporter. His operation was successful and during the many weeks of recovery, Tools enjoyed the company of his family, as well as a visit from the Oak Ridge Boys, who were en route to a performance in Nashville. He also enjoyed lunches with the mayor of Louisville and governor of Kentucky. Although Tools artificial heart apparently worked well, his kidneys failed and he died five months after surviving his history-making surgery.

From an operation on the kitchen-table to a procedure that replaced the heart with a plastic and metal gadget. Wow! Medical science has made unbelievable progress in a mere 200 years. Clean drinking water, properly stored and handled foods, preventive measures, new surgical techniques--all have prolonged life. Yet, as we live longer, new problems arise. The body's organs "give out," eyesight and hearing dim, joints stiffen, brains forget. Lifestyles also create problems. Our ancestors ploughed fields from dawn to dusk, chopped wood for their fireplaces and walked miles to school; we sit at desks, ride the bus, drive to work, eat too much. Thus, as medical science finds answers to old problems, new ones arise. Nevertheless, we live longer and better than did our ancestors! Of the thirty-three deaths listed in the *Courier Journal* the other day, none were infants, one was a teenager (probably a biker who didn't wear a helmet or passenger who forgot to buckle up), three were under 60 and the rest were over 65. Compare that to the 1860

mortality census indicating that 47% of all deaths that year were among children less than 6 years of age. That's amazing progress! Wouldn't it be interesting to come back in the year 2100 and see the advancements of science and medicine!

In doing the research for *Healing Kentucky*, I came across a wonderful piece of advice that a mid 20th century Morehead physician, Louise Caudill, preached to her patients. Maybe it is the answer to a long life. Certainly its good advice that all of us should follow! Dr. Caudill warned her patients that if they wanted to enjoy a long and healthy life, they should:

Eat right
Sleep Right
Don't drink too much
Don't smoke
Don't play around when you should not be playing around!

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